



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

### Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

### About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>





3 2044 106 398 050



HARVARD UNIVERSITY

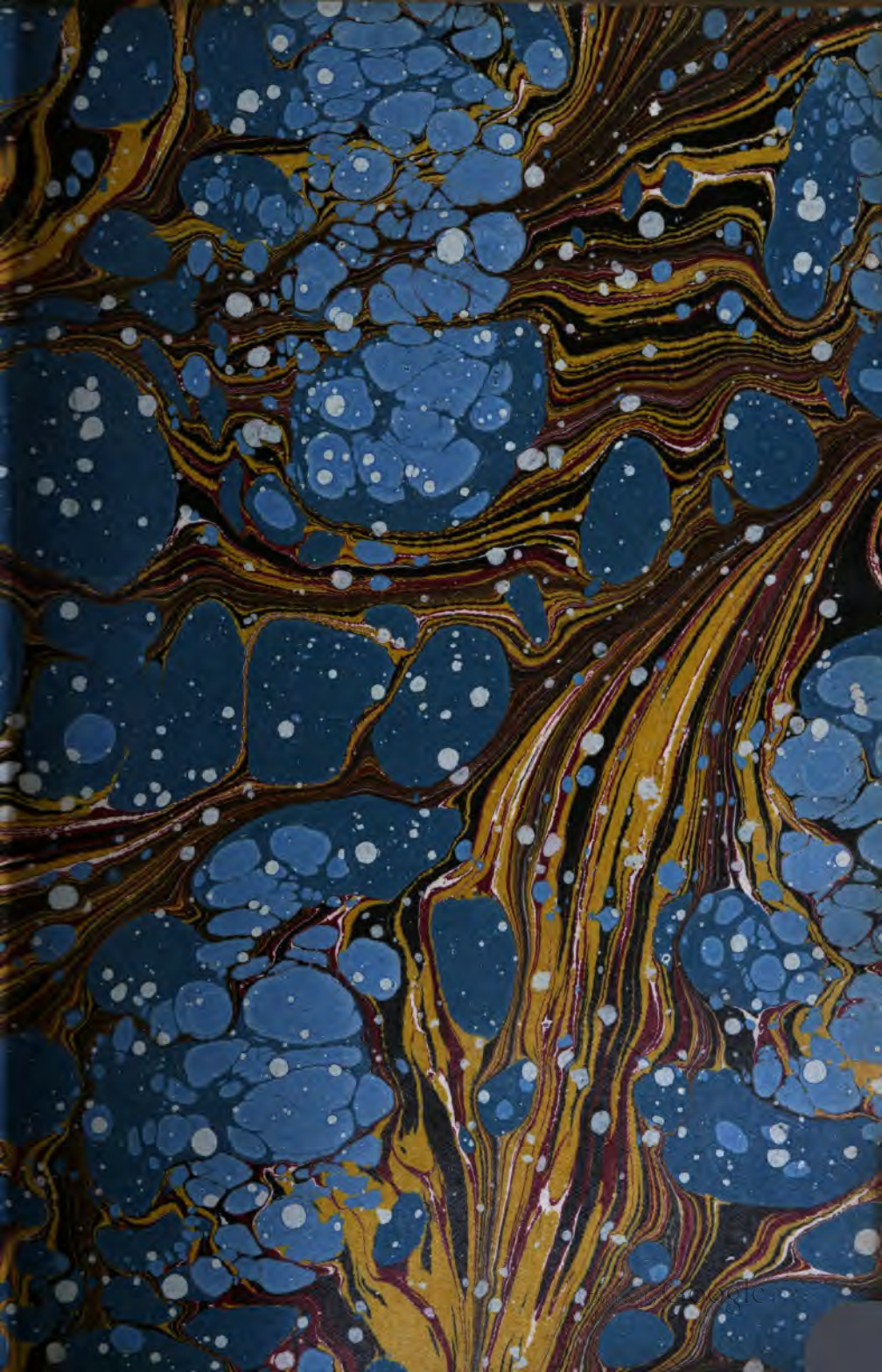


FARLOW  
REFERENCE LIBRARY  
of  
CRYPTOGAMIC BOTANY



RECEIVED 20 SEP 1915

REJECTED FROM  
SOIL SCIENCE LIBRARY









# Grevillea.

A QUARTERLY RECORD OF  
CRYPTOGAMIC BOTANY  
AND ITS LITERATURE.

---

EDITED BY M. C. COOKE, M.A., A.L.S.,

*Author of "Handbook of British Fungi," "Illustrations of British  
Fungi," "Fungi, their uses," &c., "Rust, Smut, Mildew,  
and Mould," "British Fresh Water Alga,"  
"British Desmids," &c., &c.*

---

VOL. XVII.

1888-89.

---

<sup>c</sup>  
WILLIAMS AND NORGATE,  
HENRIETTA STREET, COVENT GARDEN, LONDON;  
SOUTH FREDERICK STREET, EDINBURGH.

LEIPZIG: F. A. BROCKHAUS. NEW YORK: WESTERMANN & CO.



~~V.5294~~

42

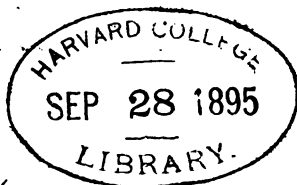
G87

v. 17

C. 2

NOV 22 1995

FARLOW REFERENCE LIBRARY



*Mainot fund.*

Printed by :

SOUTH COUNTIES PRESS LIMITED.

# Grevillea,

A QUARTERLY RECORD OF CRYPTOGAMIC BOTANY  
AND ITS LITERATURE.

## NEW BRITISH FUNGI.

By M. C. COOKE.

(Continued from Vol. XVI., p. 102.)

**Agaricus (Pholiota) mollisporium, Cke. & Mass.**

Pileus fleshy, convex, then plane, obtuse, at length depressed, even, smooth, soft like kid leather, tawny yellow; disc darker, dry, shining (2-3 in. broad); margin acute, thin; stem equal, paler, erect, fistulose (3 in. long,  $\frac{1}{4}$ - $\frac{1}{2}$  in. thick), silky, punctately squamulose at the apex; ring broad, distant, brownish, deciduous; flesh yellow; gills narrowly adnate, ventricose, crowded, thin, ferruginous; spores elliptical, smooth, ferruginous,  $12 \times 5-6 \mu$ .

On the ground. Carlisle. (Dr. Carlyle.)

Taste and smell none. Habit that of *A. præcox*, with which it was associated, but differing in the yellow colour and the bright ferruginous gills. Near to *Ag. ombrophilus*, Fr.

**Hygrophorus (Hydrocybe) spadiceus, Scop. Carn. II., 443. Fr. Hym. Eur. 420.**

Fragile; pileus thin, conical, acute, repand, fibrillosely virgate, at first covered with an olivaceous bay-brown gluten; stem hollow, equal, dry, becoming dusky and fibrillose; gills rounded behind, free, distant, lemon-yellow.—Fr. *Icon. t.* 168, fig. 1.

On the ground. July. Clun Forest. (W. Phillips.)

Somewhat resembling *H. conicus*, but not turning black.

**Lactarius (Piperites) umbrinus, Pers. Syn. 435.**

Pileus compact, convex, then plane, umbilicate, dry, floccosely cracking, umber, without zones (3 in. broad); stem solid, very short (about an inch long), white, becoming cinereous; gills crowded, pallid, growing yellowish; milk acrid, white, making greyish spots.—Fr. *Hym. Eur.* 429. *Cooke Illus. t.* 1006.

In damp places. Epping.

**Lactarius (Russularia) tomentosus, Otto, Krombh. t. 40, f. 17, 18.**

Pileus at first umbonate, then depressed and infundibuliform; dull flesh colour, becoming rufous and tawny, delicately tomentose (2-3 in. diam.); stem erect, at first stuffed, then somewhat hollow, pallid, naked, smooth; substance compact (2 in. long,  $\frac{1}{2}$  in. thick);

gills subdecurrent, yellow flesh colour ; milk white (spores 8-9  $\mu$  diam.).—*Cooke Illus. t.* 1010.

In swampy ground. Orton Moss, near Carlisle.

Fries quotes Krombholz's figure under *L. helvus* with the note "haud bona." It should doubtless be kept distinct, if only as a sub-species.

**Lactarius (*Russularia*) mammosus**, *Fr. Hym. Eur.* 434.

var. **monstrosus**, *Fr. Icon. t.* 170, *f.* 2.

Pileus fleshy, acutely umbonate, then depressed (2-3 in. diam.), dry, zoneless, lurid, clad with an interwoven grey down; stem stuffed, then hollow, pubescent, pallid (with a lurid purplish tinge, 2-3 in. long,  $\frac{1}{2}$  in. thick, or more), gills adnate, crowded, whitish, then pale ferruginous (scarcely other than *whitish* in this variety). Milk white, slowly acrid (spores about 10 $\mu$ ).—*Cooke Illus. t.* 995.

On the ground. Scarborough. (G. Massee).

**Lactarius Terreyi**, *B. & Br., Ann. N. Hist. No.* 1673, seems to be the same as *L. cimicarius*, or a variety of *L. camphoratus*, to which the specimens are referred in *Herb. Berkeley*.

**Lactarius (*Russularia*) spinosulus**, *Quel. Norm. p.* 20, *t.* 3, *f.* 10.

var. **violaceus**, *Cooke Illus. t.* 998 B.

Pileus thin, convex, then depressed (1 in. diam.), dry, tomentose, somewhat aculeate, violet, flesh paler, margin incurved, stem equal, stuffed, granulate, paler, growing pallid (2 in. long,  $\frac{1}{4}$  in. thick), gills decurrent, narrow, thin, yellowish. Milk white, soon acrid.

On the ground. Chatsworth, Sept. 1873.

**Lactarius (*Russularia*) cremor**, *Fries Hym. Eur.* 432.

var. **pauper**, *Karst. Symb. x p.* 58. *Icon. f.* 26.

Pileus fleshy, soft, rather plane, smooth, without zones, flesh colour, then yellowish, or gilvous tan colour, rather ochraceous when dry, punctate (3 in. broad or more), margin membranaceous, at length pectinately sulcate; stem hollow, equal, naked, smooth, paler than the pileus (about 2 in. long  $\frac{1}{4}$  in. thick), gills adnate, rather distant, thin, soft, colour of the pileus, flesh without juice, slowly acrid, white (spores 8-9  $\mu$ ).—*Cke. Illus. t.* 1008.

Under fir trees. Carlisle.

**Russula (*Fragiles*) Barla**, *Quelet. Ass. Fr.* 1883, *t.* vi., *f.* 12. *Sacc. Syll. v.*, 1860.

Pileus convex, then flattened and depressed ( $2\frac{1}{2}$ - $3\frac{1}{2}$  in.), compact, viscid, then dry, even, peach coloured, yellow, tinged with orange red, sometimes cracking; flesh firm, sweet, white, slightly smelling of melilot, stem fleshy, spongy, firm, silky pruinose, snow white (2 in. long,  $\frac{1}{2}$  in. thick), gills white, then becoming pallid ochraceous. Spores sub-globose, granular, 12  $\times$  10  $\mu$ .

Amongst grass, under trees. Kew, Epping Forest.

Our specimens seem to be referable to this species, the pileus has the centre always darker, tinged with a peculiar dull red, the margin bright ochre with a tinge of orange, the whole becoming pale and ochraceous in drying. The flesh of the stem sometimes turns reddish brown when cut, and the odour in age is rather that of crab than of melilot.

**Russula (Fragiles) angibilis**, Britz. *Hym. Sudb.* iv., f. 32.

Pileus yellow, convex, then plane or depressed, viscid, darker in the centre (about 2 in. diam.), thin towards the margin, but not striate. Stem equal, soft, white, spongy, at length hollow (2 in. long,  $\frac{1}{8}$  in. thick), flesh white, mild, inodorous. Gills rather unequal, attenuated behind, somewhat crowded, thin, white. Spores nearly globose, 8-10  $\mu$ .

Under trees. Kew, July, 1882.

As far as it is possible to identify any of Britzelmayer's species this seems to accord, taking into account the additions we have made to the diagnosis.

**Hypocrea moriformis**, Cke. & Mass.

Fleshy, hemispherical (1 mm. diam.), scattered, pallid, at length black; perithecia convex, minute, rather prominent, pierced with a pore; asci cylindrical, sporidia uniseptate, then dividing into cubically globose frustules, olive, smooth (5-6  $\mu$ ).

On rotten wood. Carlisle. (Dr. Carlyle).

Perithecia distinctly indicated, resembling a miniature mulberry.

**Nectria pallidula**, Cooke.

Perithecia caespitose, globose, minute ( $\frac{1}{4}$  mm.), smooth, pale ochre, bursting through the cuticle in irregular tufts, sometimes of one or two, sometimes 12 to 20 perithecia, effused when growing on naked wood. Asci clavate-cylindrical, sporidia for the most part uniseriate, subfusiform, uniseptate, hyaline ( $12 \times 3 \mu$ ).

On beech bark and wood. Carlisle. (Dr. Carlyle).

**Mucor lateritius**, Cke. & Mass.

Mycelium forming a continuous dense, dry, bright-brown felt, spreading over the tuber. Fertile hyphae erect, simple or furcate; capitulum globose, sporidia subglobose ( $12 \times 9-10 \mu$ ), pale brick-red, smooth.

On putrid potatoes. Kew.

**Trichosporium umbrinum**, Link.

Threads branched, bay-brown, forming a dense, long, and broadly effused interwoven stratum; conidia globose, smooth, brown ( $12-14 \mu$  diam.).

Running over plant pots, &c. ("Gardeners' Chronicle.")

**Oedocephalum sulfureum**, Cke. & Mass.

Tufts hemispherical or confluent, sulphur-coloured. Threads septate, dichotomous, globosely capitulate at the apex, papillate, conidia globose, hyaline (3-5  $\mu$  diam.). Epispore smooth.

On rope. Herbarium grounds, Kew.

**Melanconium rusci**, Cke. & Mass.

Pustules scattered, orbicular, erumpent, covered by the lacerated brown cuticle. Conidia elliptical, continuous, sooty-olive ( $12 \times 7-8 \mu$ ).

On phyllodes of *Ruscus aculeatus*. Kew.

This cannot be a form of *Sphaeropsis rusci*, for there is no perithecium, and the pustules are scattered and solitary.

## BRITISH PYRENOMYCETES.

BY G. MASSEE.

(Continued from Vol. XVI., p. 120.)

Fam. 10. PERTUSÆ. Perithecia emergent, smooth, flattened at the base, adnate or subimmersed. Ostiolum papillate, or pierced.

GEN 1. **CONISPHERIA**. Sporidia hyaline.

\* ZIGNOINA. *Sporidia continuous*.

C. rhodobapha, B. & Br., *Sacc. Syll.* 3659.

On old wood. South Kensington, Bristol.

\*\* MELANOPSAMMA. *Sporidia uniseptate*.

C. pæcilostoma, B. & Br., *Sacc. Syll.* 3652.

On furze. Lynn.

\*\*\* MELOMASTIA. *Sporidia biseptate*.

C. Friesii, Nke., *Sacc. Syll.* 3625 ; *Hdbk.* 2620 (= *S. Lonicera*, Sow.).

On honeysuckle. Highgate, Shere, Lynn.

\*\*\* ZIGNOELLA. *Sporidia multiseptate*.

C. hysterioides, Curr., *Grev.* XVI., 92.

On rotten wood. Chislehurst.

C. macrasca, *Sacc. Syll.* 3668.

On bleached elm wood. Bulwer, Yorks, Scarboro'.

GEN. 2. **TICOTHECIUM**. Flot. Perithecia minute, growing on Lichens. Sporidia septate.

\* PHAROIDIA. *Sporidia hyaline*.

\*\* GENUINA. *Sporidia coloured*.

† *Sporidia uniseptate*.

T. gelidarium, Mudd., p. 130 ; *Sacc. Syll.* 2232.

On *Squamaria gelida*. Teesdale.

T. perpusillum, Nyl., *Sacc. Syll.* 6593.

On *Aspicilia*. Gloucestershire, Ben Cranchan, Kylemore (I.).

T. calcaricolum, Mudd., p. 306 ; *Sacc. Syll.* 6597.

On *Aspicilia*. Lewes, Sussex, Longmynd, Ben Lawers, Ireland.

T. gemmiferum, Tayl., *Sacc. Syll.* 6598.

On lichens. Shrewsbury, Penzance, Cleveland, Grampians, Wales, Ireland.

*T. squamarioides*, Mudd., p. 130 ; *Sacc. Syll.* 6600.

On *Squamaria gelida*. Teesdale.

*T. cerinarium*, Mudd., p. 136 ; *Sacc. Syll.* 6602.

On *Callophisma*. Near Ayton, Cleveland.

†† *Sporidia triseptate.*

*T. pygmæsum*, Korb., *Sacc. Syll.* 6604.

On *Aspicilia*. Bræmar and Lough-na-cat, Scotland ; Armagh, Cleveland. (v. *Ventosicola*, Mudd.)

On *Hæmatococca*. Kildale Moor.

*T. leucomelarium*, Mudd. *Man.* p. 105 ; *Sacc. Syll.* 6605.

On *Borrera*. Cork.

*T. rimosicolum*, Leight., *Sacc. Syll.* 6606.

On *Diplotomma calcareum*. Wrekin, Penhill, Yorks, Carlton Bank, Cleveland, Ben Lawers, Appin, Killarney, Galway.

GEN. 3. **AMPHISPHERIA.** *Sporidia* coloured.

\* **AMPHISPHERELLA.** *Sporidia* continuous.

\*\* **GENUINA.** *Sporidia* uniseptate.

*A. ventosaria*, Linds. *Sacc. Syll.* 2761.

On *Lecanora ventosa*. Lochnagar.

\*\*\* **MELANOMMA.** *Sporidia* 2-3 septate.

*A. Jenynsii*, B. & Br., *Sacc. Syll.* 3232.

On wood. Bottisham, King's Cliffe, Batheaston.

*A. obliterans*, B. & Br., *Sacc. Syll.* 3233 ; *Hdbk.* 2621.

On fir. Forres, N.B.

\*\* *Sporidia* 4 or many septate.

*A. brachythele*, B. & Br., *Sacc. Syll.* 3269 ; *Hdbk.* 2609.

On elder. Batheaston, Gopsall, Chislehurst.

\*\*\* **TREMATOSPHERIA.** *Perithecia* large, *sporidia* 3 or multiseptate.

*A. pertusa*, Pers., *Sacc. Syll.* 3285 ; *Hdbk.* 2604.

On wood. Bishop's Wood, Epping.

*A. anglica*, *Sacc. Syll.* 3286.

On ash. King's Lynn.

*A. melina*, B. & Br., *Sacc. Syll.* 3294.

On ash. Batheaston.

*A. lunariæ*, Curr., *Grev.* xvi., 92.

On decorticated branches of ash.

\*\*\* **CARYOSPORA.** *Sporidia* very large, apiculate.

*A. callicarpa*, Curr., *Sacc. Syll.* 3313 ; *Hdbk.* 2605.

On wood. Kidbrooke.

GEN. 4. **WINTERIA**, *Rehm.* Perithecia rather soft, green or rufous.

\* *Sporidia septate, pale.*

*W. ordinata*, *Fr., Sacc. Syll.* 3680 ; *Hdbk.* 2583.

On naked oak wood. Little Heath, Essex.

---

## BERKELEY AND CURTIS TYPES.

By M. C. COOKE.

Some of the junior mycologists of the United States are committing a dangerous mistake in their estimate of the Curtis herbarium, and the relation of the late Dr. Curtis to the species published under the joint names of Berkeley and Curtis. The cardinal error consists in regarding the Curtisian specimens as the *types*, which some are now insisting upon, but which they are *not*, and only a misapprehension of the signification of a "type" can have led to this assumption. Dr. Curtis collected the specimens it is true, but he did not describe them; all the diagnoses were drawn up and published by the Rev. M. J. Berkeley, in their joint names, from specimens communicated by Dr. Curtis. Hence the only legitimate type specimens are those upon which the diagnoses were constructed, and which are preserved in the Berkeley Herbarium. Wherever it may occur that specimens in the Curtis Herbarium do *not* accord with those in the Berkeley Herbarium no one can attempt to deny that the specimens in the Berkeley Herbarium *must* be regarded as the type, and no other. There cannot possibly be two types, and the genuine type must essentially be that upon which the diagnosis is founded. It is folly to introduce anything like "spread-eagleism" into a question of this kind, but far wiser to accept facts as they stand, and recognize the Curtisian Herbarium as containing presumed duplicates of specimens sent to Berkeley and constituted by him the types of certain species, at the same time admitting that when they differ this is not to be attributed to error in the diagnosis, but to an error on the part of Dr. Curtis, whom we know, from experience of specimens communicated to ourselves, did not pay sufficient regard to microscopical characters to be absolutely trustworthy. No one who knows anything of the history of the Berkeley and Curtis connection can dispute this statement of the *facts*, and we contend that consequently no fictitious value should be given to the Curtisian specimens, nor any preference accorded to them when they happen to differ from the only true and veritable *type*-specimens, upon which the diagnoses were based. Nothing could have originated such an error as we have intimated above, save an ignorance of the initial facts, which we have now endeavoured to set forth in a clear and impartial manner, in the hope that all misapprehension may thereby be removed.

## AUSTRALASIAN FUNGI.

By M. C. COOKE.

(Continued from Vol. XVI., p. 114.)

Those indicated by an asterisk (\*) communicated by Baron F. Von. Mueller.

\* **Agaricus (Entoloma) galbineus**, *Cke. & Mass.*

Sulphur colour. Pileus rather fleshy, convex then expanded, obtusely umbonate (1-2 in. broad), umbo darker, almost saffron-colour, smooth, moist; stem equal, fibrillose, fistulose (2 in. long, 2-3 lines thick). Gills slightly adnexed, ventricose, pallid. Spores rosy, globose, angular,  $10\ \mu$  diam.

On the ground. Walhalla (*Tisdall* 48).

\* **Agaricus (Leptonia) quinquecolor**, *Cke. & Mass.*

Pileus membranaceous, convex, smooth, slightly virgate with radiating pink fibrils; margin yellowish, disc brownish brick-red (about 1 in. diam.), stem cylindrical, equal, or slightly attenuated upwards, fistulose, bay brown, whitish flocculose at the base (2 in. long, 1 line thick), usually caespitose; gills sinuately adnate, rosy. Spores globose, rough, 8-10  $\mu$ .

On black loam. Walhalla (*Tisdall* 54).

\* **Agaricus (Hebeloma) arenicolor**, *Cke. & Mass.*

Pileus fleshy, convex then plane, smooth, rather viscid, dingy ochre or sand colour ( $1\frac{1}{2}$ -2 in. broad). Stem cylindrical, subfibrillose, smooth, same colour as the pileus, fistulose, terminating at the base in a conical root (3 in. long,  $\frac{1}{4}$  in. thick), gills adnate, rounded behind, scarcely crowded, ventricose, pallid, then ochraceous. Spores ellipsoid, dingy umber,  $20 \times 10$ -12  $\mu$ .

On the ground. Near Melbourne (*Tisdall* 44, 49).

\* **Calocera (Ramosæ) digitata**, *Cke. & Mass.*

Branched ( $1$ - $1\frac{1}{2}$  in. high), tough, even, pallid; trunk thin, smooth, twice or three times furcate, branches expanded at the apex in a spatulate manner, each bearing from 3 to 5 delicate scyphoid processes arranged like fingers on the open hand. Spores white, elliptical,  $5$ - $6 \times 3\ \mu$ .

On damp logs. Fern gully, Dandenong (*French*, No. 2).

**Didymium australe**, *Massee.*

Sporangium globose or slightly compressed, indistinctly umbilicate, covered with a dense white layer of crystals of lime which breaks away in patches; stem elongated, erect, filiform, slightly thickened downwards, bright brown; threads of capillitium colourless, slender, variously branched; spores globose, smooth, dingy, purple-brown, 10-11  $\mu$  diam.

Gregarious. Stem 3-4 mm. long; sporangium about 2 mm. broad  $\times$  1.5 mm. high.

On old *Auricularia*. Brisbane (*Bailey* 596).



**Ustilago sclerotiformis**, Cke. & Mass.

Black, compact, obovate, large (2 mm. diam), never becoming powdery, spores subglobose, dark umber (16-18  $\mu$  diam.). Epispore granulose.

Absorbing the ovaries of *Uncinia caespitosa*. Taheraite, New Zealand (Kirk. 321).

Somewhat resembling *U. marmorata*, B., but that species has spores distinctly verrucose, in the type specimens, although included by F. de Waldheim with the smooth-spored species.

**\* Cucurbitaria (Melanomma) plagia**, Cke. & Mass.

Perithecia densely crowded, forming oblong erumpent clusters, which are at length almost superficial, and confluent in large patches, 2-3 in. long; the individual perithecia are globose, but compressed and deformed by crowding, black, shining, smooth. Ostiolum minute. Asci cylindrical; sporidia in one or two series, lanceolate, triseptate, pale-brown (40-45  $\times$  10-12  $\mu$ ).

On living twigs of *Cassinia aculeata*. Port Phillip (French).

Resembling *Othiella morbosa* in habit.

**Fusicolla incarnata**, Cke. & Mass.

Epiphyllous. Pustules small, gregarious, seated on paler spots, convex, rosy flesh colour, here and there confluent (scarce  $\frac{1}{4}$  mm. diam.), somewhat gelatinous, or scattered over the petioles, and midribs. Conidia cylindrical, rounded at the ends, nucleate or granular, hyaline, straight, simple, 16-20  $\times$  4-5  $\mu$ . Sporophores very short and deciduous.

On dead coriaceous leaves. Brisbane (Bailey 597).

## BRITISH HYPHOMYCETES.

(Concluded from Vol. xvi., p. 113.)

ORD. 3. *STILBEÆ*.Ser.\* *HYALOSTILBEÆ*.

**Stilbum melleum**, B. & Br. Sacc. Syll. iv., 2667.

On bark. Congresbury.

**Stilbum orbiculare**, B. & Br. Sacc. Syll. 2676.

On *Lindbladia effusa*. Aviemore, Rothiemurchas, N.B.

**Stilbum tomentosum**, Schr. Sacc. Syll. 2677.

On *Trichia*. Scotland, Scarboro', Forden, Shere, Hitchen, Twycross, Carlisle, Apethorpe, Haywood Forest.

**Stilbum erythrocephalum**, Ditm. Sacc. Syll. 2680.

On dung. Scarboro', Orton Wood.

**Stilbum vulgare**, Tode. Sacc. Syll. 2682.

On rotten wood. Scotland, Scarboro', Berwick.

**Stilbum pellucidum**, Schrad. Sacc. Syll. 2685.

On wood and rotten fungi. Appin.

- Stilbum acicula**, *Sacc. Sacc. Syll.* 2691.  
On herb stems. Apethorpe.
- Stilbum vaporarium**, *B. & Br. Sacc. Syll.* 2698.  
On wood in stoves. Kew Gardens.
- Stilbum fasciculatum**, *B. & Br. Sacc. Syll.* 2699.  
On wood. Swansea, Wrekin, Kew.
- Stilbum fimetarium**, *Pers. Sacc. Syll.* 2710.  
On dung. Scarboro', Shrewsbury, Downton, near Ludlow,  
Cowan Court, Elmstead, Ringmer, Epping, King's Lynn.
- Stilbum aurantiacum**, *Bab. Sacc. Syll.* 2714.  
On branches. Leicestershire, Salisbury, Shrewsbury.
- Stilbum turbinatum**, *Tode. Sacc. Syll.* 2718.  
On trunks. Twycross.
- Stilbum ranigenum** (*B. & Br. = Acremonium*). *Sacc. Syll.* 2719.  
On rotten branches. Monkton Farleigh.
- Stilbum tetraonum**, *Cke.*  
On grouse dung. Rannoch.
- Stilbum citrinellum**, *Cke. & Mass. Grev. XVI., 81.*  
On leaves of *Lycopodium*. Kew.
- Stilbum nigripes** (*Carm.*), *Cke. Grev. XVI., 81.*  
On oak leaves. Appin.
- Pilacre faginea**, *Fr. Sacc. Syll.* 2748.  
On rotten beech. Wiltshire.
- Pilacre Petersii**, *B. & C. Sacc. Syll.* 2752.  
On rotten hornbeam. Epping Forest, Hainault Forest, Lynd-  
hurst.
- Coremium glaucum**, *Fr. Sacc. Syll.* 2758.  
On rotting fruit. Edinburgh.
- Coremium coprophilum**, *B. Sacc. Syll.* 2753.  
On rabbit's dung. Kew.
- Isaria farinosa**, *Dicks. Sacc. Syll.* 2772.  
On chrysalids. Hampstead, Darenth, Dinmore, Weybridge,  
Blackheath, Shere, Carlisle, Bristol.
- Isaria crassa**, *Link. Sacc. Syll.* 2774.  
On chrysalids. Kent.
- Isaria hoccosa**, *Fr. Sacc. Syll.* 2778.  
On pupæ of *Bombyx Jacobæa*.
- Isaria sphingum**, *Schw. Sacc. Syll.* 2781.  
On dead Lepidoptera.  
On pupæ of Diptera. Kincardineshire.
- Isaria arachnophila**, *Ditm. Sacc. Syll.* 2791.  
On spiders. Scotland.
- Isaria felina**, *D.C. Sacc. Syll.* 2793.  
On cat's dung. London.
- Isaria brachiata**, *Batsch. Sacc. Syll.* 2800.  
On fungi. Apethorpe.
- Isaria citrina**, *Pers. Sacc. Syll.* 2801.  
On trunks and decaying fungi. Jedburgh.

- Isaria intricata**, *Fr.* *Sacc. Syll.* 2802.  
On dead *Stereum*. Glamis, N.B., Scarboro', King's Cliffe,  
Lucknam, Exeter.
- Isaria umbrina**, *Pers.* *Sacc. Syll.* 2807.  
On *Hypoxylon coccineum*. Batheaston, Sydenham, Dinmore.
- Isaria microscopica**, *Grev.* *Sacc. Syll.* 2808.  
On *Trichia clavata*. Auchindenny, N.B.
- Isaria Friesii**, *Mont.* *Sacc. Syll.* 2809.  
On bark. Milton, Apethorpe, Spye Park.
- Isaria albida** (*Fr.*). *Sacc. Syll.* 2814.  
On rotten wood. King's Cliffe.
- Isaria spumarioides**, *Cooke.* *Sacc. Syll.* 2816.  
On bark. Knowsley.
- Isaria tomentella**, *Fr.* *Sacc. Syll.* 2832.  
On leaves. *Ann. Nat. Hist.* No. 1711.
- Isaria fuciformis**, *Berk.* *Sacc. Syll.* 2839.  
On grasses. Ashford, Kent.
- Isaria puberula**, *Berk.* *Sacc. Syll.* 2840.  
On dahlia flowers. Apethorpe.
- Isaria muscigena**, *Cooke & Mull.* *Grev.* XVI., 81.  
On moss. Eastbourne.
- Ceratium hydroides**, *A. & S.* *Sacc. Syll.* 2845.  
On rotten wood. Scotland, Scarboro', Dinmore, Carlisle, Oldham,  
Appin, Tansor (Notts.), Holm Lacey.
- Atractium flammeum**, *B. & R.* *Sacc. Syll.* 2860.  
On bark. Penzance.

## Ser.\*\* PHÆOSTILBÆÆ.

- Sporocybe byssoides**, *Pers.* *Sacc. Syll.* 2877.  
On herb stems. Darenth, Shere, Forden, Batheaston, Ape-  
thorpe, Charmy Down, Shrewsbury.
- Sporocybe brassicæcola**, *B. & Br.* *Sacc. Syll.* 2878.  
On cabbage stalks. Batheaston.
- Sporocybe cuneifera**, *B. & Br.* *Sacc. Syll.* 2879.  
On cabbage stalks. Batheaston.
- Sporocybe calicioides**, *Fr.* *Sacc. Syll.* 2885.  
On beech trunks. (Scotland?).
- Sporocybe atra** (*Desm.*). *Sacc. Syll.* 2891.  
On grass. Isle of Wight.
- Sporocybe Phillipsii**, *B. & L.* *Sacc. Syll.* 2894.  
On naked soil. Trefriew, N.W.
- Graphium stilboideum**, *Corda.* *Sacc. Syll.* 2896.  
On cabbage stems. Batheaston.
- Graphium rigidum**, *Pers.* *Sacc. Syll.* 2897.  
On rotten trunks. Glamis, N.B., Carlisle.
- Graphium calicioides** (*B.*). *C. & Mass. Grev.* XVI., 11.  
On wood. Kew, Glamis.

- Graphium Desmazierii**, *Sacc. Syll.* 2898.  
On rotten trunks.
- Graphium flexuosum**, *Mass. Sacc. Syll.* 2902.  
On rotten wood. Scarboro'.
- Graphium subulatum**, *Nees. Sacc. Syll.* 2910.  
On acorns and fir cones. Scotland, Scarboro', King's Cliffe.
- Graphium Grovei**, *Sacc. Syll.* 2911.  
On wood. Hampton in Arden.
- Graphium Passerinii**, *Sacc. Syll.* 2912.  
On *Gynerium argenteum*. Kew.
- Graphium Stevensonii**, *B. & Br. Sacc. Syll.* 2915.  
On rotten wood. Glamis, N.B.
- Graphium griseum**, *Berk. Sacc. Syll.* 2926.  
On herb stems. Kinrara, N.B.
- Graphium glaucocephalum**, *Corda. Sacc. Syll.* 2927.  
On nettle stems. Burnt Ash Lane (F. Currey).
- Graphium piliforme**, *Pers. Sacc. Syll.* 2928.  
On herbs. Appin.
- Graphium nigrum**, *Berk. Sacc. Syll.* 2931.  
On culms of *Eriophorum*. Stibbington.
- Graphium anomalum**, *Berk. Sacc. Syll.* 2937.  
On dead branches. King's Cliffe.
- Graphium bicolor**, *Pers. Sacc. Syll.* 2943.  
On trunks. Appin.
- Graphium graminum**, *Cke. & Mass. Grev. XVI., 11.*  
On *Gynerium*. Kew.
- Harpographium graminum**, *Cke. & Mass. Grev. XVI., 81.*  
On straw. Hampstead.
- Stysanus stemonitis**, *Pers. Sacc. Syll.* 2951.  
On trunks, herbs, &c. Greeshop, N.B., Chislehurst, Kew,  
Holloway.
- Stysanus putredinis**, *Corda. Sacc. Syll.* 2965.  
On rotten leaves. Glamis, N.B.
- Stysanus clematidis**, *Fckl. Sacc. Syll.* 2960.  
On clematis. Batheaston.
- Graphiothecium parasiticum** (*Desm.*), *Sacc. Syll.* 2971.  
On dead leaves. Dartford.
- Arthrobotryum stilboideum**, *Ces. Sacc. Syll.* 3986.  
On wood. St. Catharines.
- Arthrobotryum atrum**, *B. & Br. Sacc. Syll.* 2987.  
On herb stems. Charmy Down, Batheaston.

## ORD. 4. TUBERCULARIÆ.

- Tubercularia vulgaris**, *Tode. Sacc. Syll.* 3002.  
On branches. Very common.
- Tubercularia granulata**, *Pers. Sacc. Syll.* 3006.  
On *Robinia*, &c. Scotland.

- Tubercularia ligustri**, Cke. *Grev.* XVI., 49.  
On *Ligustrum*. Kew.
- Tubercularia nigricans**, Bull. *Sacc. Syll.* 3009.  
On *Ulmus*, &c. Jedburgh.
- Tubercularia euonymi**, Roum. *Sacc. Syll.* 3013.  
On *Euonymus*. Kew.
- Tubercularia conorum**, C. & M. *Grev.* XVI., 49.  
On fir cones. Carlisle.
- Tubercularia aquifolia**, C. & M. *Grev.* XVI., 49.  
On holly leaves. Highgate.
- Tubercularia æsculi**, Opiz. *Sacc. Syll.* 3014.  
On *æsculus*. Kew Gardens.
- Tubercularia expallens**, Fr. *Sacc. Syll.* 3015.  
On *æsculus*. Kew Gardens.
- Tubercularia confuens**, Pers. *Sacc. Syll.* 3017.  
On *salix* and *acer*. Common.
- Tubercularia sambuci**, Corda. *Sacc. Syll.* 3020.  
On *Sambucus*. Kew.
- Tubercularia versicolor**, *Sacc. Syll.* 3036.  
On box twigs. King's Cliffe.
- Tubercularia sarmentorum**, Fr. *Sacc. Syll.* 3042.  
On ivy. Neatishead, Batheaston.
- Tubercularia herbarum**, Fr. *Sacc. Syll.* 3056.  
On herb stems.
- Tubercularia brassicæ**, Lib. *Sacc. Syll.* 3057.  
On cabbage stalks. Isleworth.
- Dendrodochium citrinum**, Grove. *Sacc. Syll.* 3083.  
On rotten pine wood. Burntgreen (Warw.).
- Tuberculina persicina**, Ditm. *Sacc. Syll.* 3088.  
Parasitic on uredines. Dinmore.
- Illosporium roseum**, Schreb. *Sacc. Syll.* 3100.  
On lichens. Scotland, Bungay, Hampstead, Wellington (Salop),  
Whitwick, Batheaston.
- Illosporium coccineum**, Fr. *Sacc. Syll.* 3101.  
On lichens. Twycross.
- Illosporium corallinum**, Rob. *Sacc. Syll.* 3102.  
On *Parmelia parietina*, &c. Shrewsbury.
- Illosporium carneum**, Fr. *Sacc. Syll.* 3103.  
On *Peltigera*, &c. Moncrieffe, N.B., N. Wootton, Plymouth,  
Apethorpe.
- Illosporium Curreyi**, *Sacc. Syll.* 3116 (Arthroderma, Berk.).  
On branches and leaves. Hereford.
- Egerita candida**, Pers. *Sacc. Syll.* 3124.  
On wood. Scotland, Scarboro', Coed Coch, near Manchester,  
Spye Park, Twycross, Appin, Downton.
- Egerita virens**, Carm. *Grev.* XVI., 81.  
On (birch ?) bark. Appin.

- Fusicolla Betæ**, Bon. Sacc. Syll. 3142.  
On beetroot.
- Sphacelia segetum**, Lev. Sacc. Syll. 3147.  
On *Sclerotium clavum*.
- Sphacelia typhina**, Pers. Sacc. Syll. 3150.  
On *Dactylis*. Common form of *Epichlœ*.
- Hymenula constellata**, B. & Br. Sacc. Syll. 3170.  
On chips. Batheaston.
- Hymenula rubella**, Fr. Sacc. Syll. 3171.  
On *Typha*. Lincolnshire.
- Hymenula Berkeleyi**, Sacc. Syll. 3174 (punctiformis, B.).  
On larch. Batheaston.
- Hymenula vulgaris**, Fr. Sacc. Syll. 3157.  
On nettle stems. Twycross.
- Hymenula pezizoides**, Phil.  
On pine leaves. Forres, N.B.
- Cylindrocolla Urticæ**, Pers. Sacc. Syll. 3190.  
On nettle stems. Very common. Highgate, Eltham, Forden, Shere, Epping, Twycross, Shrewsbury, Thirsk, King's Cliffe, Audley End, Darenth, Tunbridge, Downton, Breenton.
- Periola tomentosa**, Fr. Sacc. Syll. 3219.  
On potatoes. King's Cliffe.
- Volutella ciliata**, A. & S. Sacc. Syll. 3223.  
On potato. Sanquhar, N.B., King's Cliffe.
- Volutella roseola**, Cooke. Sacc. Syll. 3230.  
On *Billbergia*. Glasnevin (I.).
- Volutella hyacinthorum**, Berk. Sacc. Syll. 3231.  
On bulbs. King's Cliffe, Dublin.
- Volutella setosa**, Grev. Sacc. Syll. 3235.  
On herb stems. Scotland, Appin, Dartford, Dupplin, N.B., Rotherwas, Credinhill.
- [**Volutella nivea**, Sacc. Syll. 3236 (= *Psilonia*, Fries).  
On bark of *Fagus*. Is *Adelges Fagi*, according to authentic specimens.]
- Volutella buxi**, Corda. Sacc. Syll. 3237.  
On box leaves. King's Cliffe, Dorking, Whitehall.
- Volutella gilva**, Pers. Sacc. Syll. 3240.  
On putrid leaves. Southwick, Notts.
- Volutella discoidea** (B. & Br., sub. *Psilonia*), Sacc. Syll. 3246.  
On chips. Wilts, Chippenham.
- Volutella melaloma**, B. & Br. Sacc. Syll. 3252.  
On leaves of *Carex*. Spye Park.
- Volutella arundinis**, Desm. Sacc. Syll. 3261.  
On sheaths of reed. Spye Park.
- Endodesmia glauca**, B. & Br. Sacc. Syll. 3267.  
On cabbage stalks. Batheaston.

- Bactridium flavum**, *Kunze.* *Sacc. Syll.* 3268.  
On rotten wood. Audley End, King's Lynn, Bristol, Ascot,  
Batheaston, King's Cliffe.
- Bactridium acutum**, *B. & W.* *Sacc. Syll.* 3275.  
On hymenium of *Peziza*. Glen Tilt, N.B.
- Bactridium helvellæ**, *B. & Br.* *Sacc. Syll.* 3276.  
On hymenium of *Peziza*. Batheaston.
- Bactridium atrovirens**, *Berk.* *Sacc. Syll.* 3278.  
On trunks. Apethorpe.
- Fusarium sarcochroum**, *Desm.* *Sacc. Syll.* 3281.  
On branches. Sydenham.
- Fusarium pyrochroum**, *Desm.* *Sacc. Syll.* 3282.  
On acorns. Kew.
- Fusarium lateritium**, *Nees.* *Sacc. Syll.* 3283.  
On branches. Scotland, Milton, King's Cliffe, Dinmore.
- Fusarium viticola**, *Thum.* *Sacc. Syll.* 3288.  
On *Ampelopsis*. Kew.
- Fusarium tubercularioides**, *Corda.* *Sacc. Syll.* 3299.  
On branches of raspberry.
- Fusarium fœni**, *B. & Br.* *Sacc. Syll.* 3306.  
On damp hay. Apethorpe.
- Fusarium myosotidis**, *Cke.* *Grev. XVI.*, 49.  
On leaves of *Myosotis*. Forden.
- Fusarium inæquale**, *Awd.* *Sacc. Syll.* 3310.  
On herbs.
- Fusarium diffusum**, *Carm.* *Grev. XVI.*, 81.  
On stems of thistles. Appin (Carmichael).
- Fusarium roseum**, *Link.* *Sacc. Syll.* 3311.  
On stems and leaves. Downton, Highgate, Neatishead, King's  
Cliffe, Apethorpe.
- Fusarium brassicæ**, *Thum.* *Sacc. Syll.* 3314.  
On cabbage stalks. Isleworth, Twycross.
- Fusarium aurantiacum**, *Corda.* *Sacc. Syll.* 3334\*.  
On gourds. Apethorpe.
- Fusarium cœruleum**, *Lib.* *Sacc. Syll.* 3335.  
On potatoes.
- Fusarium solani**, *Mart.* *Sacc. Syll.* 3336.  
On potatoes. Common.
- Fusarium heterosporum**, *Nees.* *Sacc. Syll.* 3343.  
On grasses. Goole, Hereford, Batheaston.
- Fusarium minimum**, *Fuckel.* *Sacc. Syll.* 3345.  
On *Poa pratensis*. Isleworth.
- Fusarium insidiosum**, *Berk.* *Sacc. Syll.* 3346.  
On *Agrostis*. Gard. Chron. 1860, p. 480.
- Fusarium bulbigenum**, *C. & M.* *Grev. XVI.*, 49.  
On Narcissus bulbs. London.
- Fusarium flisporum**, *Cooke.* *Sacc. Syll.* 3348.  
On *Orthotrichum*. Eastbourne.

**Fusarium obtusum**, Cooke. *Sacc. Syll.* 3353.

On *Diatrype*. Forres, N.B.

**Fusarium epimyces**, Cooke.

On *Scleroderma*. Reading.

**Fusarium mucophytum**, Sm. *Gard. Chron.* 1884, p. 245.

On Agarics. Huddersfield.

\* *Sub.-Gen.* FUSISPORIUM, Link.

**Fusarium roseolum**, Steph. *Sacc. Syll.* 3363.

On potatoes. Forden, Bristol.

**Fusarium bacilligerum**, B. & Br. *Sacc. Syll.* 3370.

On leaves of *Rhamnus alaternus*. Spy Park (Wilts).

**Fusarium heteronemum**, B. & Br. *Sacc. Syll.* 3374.

On rotting pears. Batheaston.

**Fusarium incarcerans**, Berk. *Sacc. Syll.* 3383.

In capsules of *Orthotrichum*. Handbook, No. 1868.

**Fusarium Kuhnii**, Sacc. *Syll.* 3384.

On lichens and mosses.

**Fusarium salicinum**, Corda. *Sacc. Syll.* 3391.

On willow branches. Twycross.

**Fusarium rhabdophorum**, B. & Br. *Sacc. Syll.* 3395.

On branches on *Valsa*. Forres, N.B.

**Fusarium cucumerinum**, B. & Br. *Sacc. Syll.* 3410.

On rotting cucumbers. Sibbertoft.

**Fusarium equisetorum** (Lib.). *Sacc. Syll.* 3416.

On *Equisetum*. Oswestry, N. Wootton.

**Fusarium aurantiacum**, Lk. *Sacc. Syll.* 3428.

On herbs. King's Cliffe, Twycross.

\*\* *Sub.-Gen.* LEPTOSPORIUM, Sacc.

**Fusarium translucens**, B. & Br. *Sacc. Syll.* 3436.

On larch branches. Glamis, N.B.

**Fusarium minutulum**, Corda. *Sacc. Syll.* 3441.

On chips of hazel. St. Catherine's, Bath.

**Pionnotes uda** (Berk.). *Sacc. Syll.* 3468.

On trunks. King's Cliffe.

**Pionnotes betæ** (Desm.). *Sacc. Syll.* 3470.

On beetroot. Scotland, Scarboro', Apethorpe.

**Microcera coccophila**, Desm. *Sacc. Syll.* 3473.

On dead cocci on branches. Penzance.

TUBERCULARIÆ DEMATIEÆ.

**Epicoccum vulgare**, Ca. *Sacc. Syll.* 3482.

On stems. Kidbrooke.

**Epicoccum granulatum**, Penz. *Sacc. Syll.* 3484.

On *Sorghum cernuum*. Kew.

**Epicoccum neglectum**, Desm. *Sacc. Syll.* 3483.

On grasses. Scotland, Credinhill, 'Scarboro', Dublin, Goole, Kew, Wiltshire, Shrewsbury.



- Epicoccum diversisporum**, *Preuss. Sacc. Syll.*  
On reeds. Kew.
- Epicoccum herbarum**, *Ca. Sacc. Syll.* 3489.  
On leaves. Kew.
- Epicoccum micropus**, *Corda. Sacc. Syll.* 3492.  
On *Lactarius*. Ascot.
- Epicoccum equiseti**, *Berk. Sacc. Syll.* 3504.  
On *Equisetum*. Fineshade.
- Epicoccum purpurascens**, *Sacc. Syll.* 3481.  
On *Gynerium*. Kew.
- Epidochium atrovirens**, *Fr. Sacc. Syll.* 5338.  
On branches. Shere, Haywood Common, Leatherhead.
- Myrothecium roridum**, *Tode. Sacc. Syll.* 3550.  
On dead leaves. Appin.
- Myrothecium inundatum**, *Tode. Sacc. Syll.* 3552.  
On dead Agarics. Appin, Downton.
- Exosporium tilia**, *Link. Sacc. Syll.* 3569.  
On *Tilia*. King's Lynn.

## EXOTIC FUNGI.

By M. C. COOKE.

**Marasmius (Calopodes) jubæacola**, *Cke.*

Pileo submembranaceo, convexo-expanso, obtuse umbonato, demum depresso, subrugoso, densissime furfuraceo, opaco, albido (circa 1 unc. lata), stipite deorsum subattenuato, fuligineo, sursum albido, striatulo, tenui, curvato, farcto (1 unc. long, 2 mm. crass), lamellis distantibus, latis, venoso-connexis, adnato-decurrentibus, albis; sporis clavatis, magnis  $22 \times 6 \mu$ .

On trunk of *Jubæa*. Jardin des Plantes, Paris.

Allied to *M. vaillantii* and *M. inoderma*, but differing essentially in the very large clavate spores, very unusual in this genus.

**Tilletia verrucosa**, *Cke. & Mass.*

Ovariis inflatis, pallido-fuscis. Sporis globosis, solitariis, fuscis (15-16  $\mu$  diam.), episporio verrucoso, verrucis obtusis.

In the ovaries of *Panicum miliare* (Kirk).

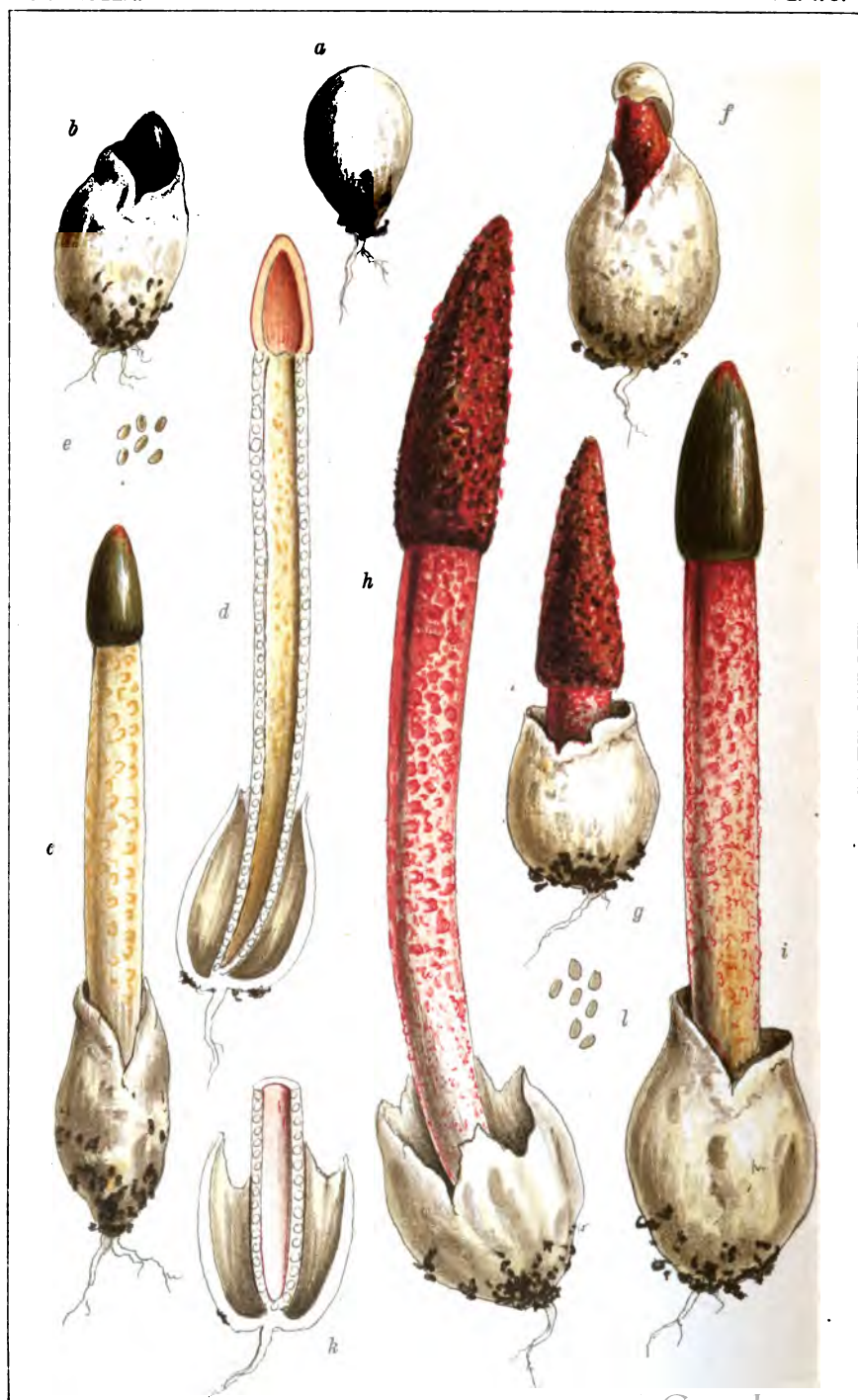
Between Lupata and Tette, Tropical Africa.

**Hydnum (Mesopus) aspratium**, *Berk.*

Pileo carnosus, applanatus, demum depresso, subinfundibuliformi, (5-6 unc. diam. vel ultra) azono, squamoso, umbrino. Stipite valido, crasso 3 in. long, 1 unc. crassæ, quali vel deorsum attenuato, sulcato, pallido, glabro; aculeis acutis, decurrentibus, tenuibus, albo-fuscescentibus.

On the ground. Japan. Edible.





a — e MUTINUS CANINUS. f — l MUTINUS BAMBUSINUS.

## MUTINUS BAMBUSINUS, IN BRITAIN.

Although the circumstance is somewhat unusual and inexplicable, it is nevertheless true that a genuine tropical species of *Phallus* has lately made its appearance in the open ground, amongst young plum trees in Noble's Nursery at Sunningdale. This particular species is *Mutinus bambusinus* (Zoll.), formerly called *Cynophallus bambusinus*, but changed in favour of an older generic name which has priority. How far it may be advisable to supersede a well-known, and generally-accepted, generic name in favour of another, simply on the ground of its antiquity, is a question we need not discuss.

By the kindness of Sir J. D. Hooker we examined a fresh specimen of this *Mutinus*, and were struck at once with the very strong and fœtid odour which escaped from the box in which it was enclosed, whereas our common *Mutinus caninus* is almost inodorous. The rosy stem and more elongated pileus were also striking. This species, of which a drawing and specimens may be found in the Berkeley Herbarium, from Java, was originally found and named by Zollinger, from its habit of growing at the base of bamboo clumps, in that island, and we are not aware of any other locality until it turned up so unexpectedly at Sunningdale. Whether the mycelium was imported with some of the exotics found in a large nursery and thus established itself may be probable, since it is doubtful whether it ever would have been found in this country except under such circumstances. The differences between the two species may be gathered from the following diagnoses:—

***Mutinus caninus*, Huds. Fl. Angl. II., 630.**

Whole fungus about 15 cm. high, inodorous. Stem white, or reddish, the walls consisting of one stratum of cavities. Capitulum short ( $\frac{1}{3}$ - $\frac{1}{4}$  of the whole fungus), acutely digitaliform, flesh coloured, walls of the internal surface foveolate, apex pervious or impervious. Mass of spores dingy olive. Spores  $6 \times 4 \mu$ .

On the ground.

PLATE 173. *Fig. a*, in the egg state; *b*, just emerging; *c*, mature fungus; *d*, section of same; *e*, spores  $\times 400$ .

***Mutinus bambusinus*, Zoll. Syst. Verz. (1854), p. 11.**

Whole fungus about 10 cm. high. Stem pallid rubiginous (or rosy), 6-8 mm. thick, the walls containing one stratum of cavities. Capitulum long (half the entire length), acutely conical, dingy purple, externally rugose, impervious at the apex. Mass of spores sooty olive, spores  $6 \times 4 \mu$ .

On the ground; originally at the base of bamboo clumps.

PLATE 173. *Fig. f*, emerging from the volva; *g*, further advanced; *h*, *i*, mature fungus; *k*, section of base; *l*, spores  $\times 400$ . *Figs. f, g, and h* from drawings of Javan specimens, by Kurz.; *h* and *i* from British specimens; *fig. h* from drawings by G. Massee.

## MEMORABILIA.

**SIPHOPYCHUM CASPARYI.**—Having been called to account for our note on this species in Ellis' N. A. Fungi, we have examined it again, and find, as far as our copy is concerned, that the note was correct. There is no columella, and the spores are about half the diameter of those in true specimens sent by Dr. Rex and Dr. Farlow. Why the specimens are wrong in our copy is not for us to explain, and we can only rest upon the fact.

**CORTICIUM CROCICREAS, B. & C.**—The specimens issued in Ellis' N. A. Fungi, No. 2021, cannot be the true species, the microscopical characters of which are unmistakable and almost unique.—G. M.

**CORTICIUM DRYINUM, B. & C.**, in Ellis' N. A. Fungi, No. 2020, as far as our specimens go, is *Corticium xanthellum*, B.—G. M.

**HYMENOCHÆTE SPRETA, Peck**, on the faith of the specimens No. 1936 in Ellis' N. A. Fungi is the same as *Hymenochæte unicolor*, Berk. & Curt., in Herb. Berkeley, from Cuba.

**RETICULARIA MAXIMA** of Fuckel's Fungi Rhenani, No. 1473, is *Amaurochæte atra* (A. & S.).

**TILMADOCHÉ COLUMBINA (Berk.)**, in Ellis' N. A. Fungi, No. 2087, is quite distinct from the type specimen of *Didymium columbinum*, B. & C., in Herb. Berkeley, No. 10767.—G. M.

**BADHAMIA HYALINA, P.**, in Ellis' N. A. Fungi, No. 1214, is the same as *Badhamia papaveracea*, Berk. & Rav.—G. M.

**CRINULA PARADOXA, B. & Curt.**—This is evidently not a fungus at all, but morbid cells, allied to *Erineum*.—G. M.

**SYLLOGE ALGARUM.**—Dr. J. B. de Toni has issued a prospectus of a proposed "Sylloge Algarum," similar in style and scope to the "Sylloge Fungorum" of Prof. Saccardo. He desires the names of subscribers, at the same price of one franc per sheet, addressed to Doct. J. B. de Toni, S. Moise, 1480, Venise (Italie).

**BENTHALL'S DRYING PAPER.**—Those who attempt to dry and preserve sections of the fleshy Fungi know how desirable it is to obtain a good and thoroughly absorbent drying paper. As far as our experience extends we know of none which can surpass or compete successfully with Benthall's Drying Paper, now supplied by the publishers of the "Journal of Botany," West, Newman, and Co., of Hatton Garden. The extra thick quality is so durable that it may be used over and over again for years.

## SACCARDO SYLLOGE—HYPHOMYCETES.

As we have been unable to trace the following species in the Index to Vol. IV. of the "Sylloge," we direct attention to them in order that they may be incorporated in the next "Appendix."

- Cercospora adoxæ*, Roum. *Fungi Gall.* No. 1873.  
*Cercospora doronici*, Pass. in Roum. *F. Gall.* 1873.  
*Cercospora grisea*, C. & E. *Grevillea* v., p. 49.  
*Cercospora rhæi*, Grog. in Roum. *F. Gall.* 2775.  
*Cercospora Therriana*, Roum. *F. Gall.* 2264.  
*Cercospora calthæ*, Cooke.  
*Cercospora longissima*, Cooke & Ellis.  
*Heterosporium maculatum*, Klotzsch. in *Herb. Kew.*  
*Dendryphium quadrisepatum*, Cooke.  
*Sporidesmium vermiforme*, Riess. *Fckl. F. Rhen.* 76.  
*Sporidesmium macluræ*, Thum. *Myc. Univ.* 2074.  
*Coniothecium anisoporum*, Mont. *Ann. Sci. Nat.*, 1849, 57.  
*Coniothecium subglobosum*, Cke.  
*Stemphylium fuscescens*, Rabh. *F. Eur.* 1174.  
*Stemphylium polymorphum*, Corda *1c. i.*, f. 119.  
*Macrosporium abutilonis*, Pass. in *Speg. Dec. M. It.* 58.  
*Macrosporium canificans*, Thum. *Myc. An.* 2280.  
*Macrosporium chelidonii*, Rabh. *Unio. Itin.* xxxvii.  
*Macrosporium cæspitosum*, Rabh. *Unio. Itin.* xxxii.  
*Macrosporium elegantissimum*, Rabh. *Unio. Itin.* xxxv.  
*Macrosporium oleandri*, Rabh. *Unio. Itin.* xxvii.  
*Macrosporium spaniotrichum*, Rabh. *Unio. Itin.* xxix.  
*Macrosporium gramineum*, Cooke in *Rav. Amer. Exs.* 606.  
*Macrosporium Ravenelii*, Thum. *Myc. Unio.* 2071.  
*Macrosporium rubi*, Ellis in *N. Am. Fun.* 544.  
*Macrosporium scirpi*, Lasch. in Roum. *F. Gall.* 1994.  
*Macrosporium Zimmermanni*, Roum. *F. Gall.* 396.  
*Gonytrichum fulvum*, Ellis *N. Am. Fungi* 657.  
*Dicoccum pulchrum*, Thum. *Myc. Univ.* 1878.  
*Steirochæte solani*, Casp. in Klotz. *Hb. Myc.* 1980.  
*Sporodum asperum*, Ces. in Rabh. *F. Eur.* 785.  
*Conoplea olivacea*, Pers. *Syn. Fung.* 234.  
*Conoplea Eryngii*, Pers. *Myc. Eur.* i., 11.  
*Circinotrichum murinum*, Desm. *Crypt. Ex.* ii., 5.  
*Gyrothrix pannosa*, Ces. in Klotz. *Hb. Myc.* 273.  
*Coniosporium arnicæ*, Libert *Exs.* 382.  
*Coniosporium circinans*, Fr. *Sys. Myc.* iii., 257.  
*Cladosporium cæspiticium*, Rabh. *F. Eur.* 579.  
*Cladosporium chætodium*, Cke.  
*Cladosporium diaphanum*, Thum. *Myc. Un.* 1868.  
*Cladosporium dracænatum*, Thum. *Myc. Un.* 1869.  
*Cladosporium gleditschiæ*, Cke. in *Rav. Amer. Exs.* 297.

- Cladosporium microporum*, *Rabh. Unio. Itin.* xlii.  
*Cladosporium obtectum*, *Rabh. Unio. Itin.* xxxvi.  
*Cladosporium pelliculosum*, *B. & C.*  
*Cladosporium subnodosum*, *Cke. in Rav. Amer. Ex.* 294.  
*Cladotrichum simplex*, *Cke.*  
*Clasterosporium subulatum*, *C. & Peck.*  
*Clasterosporium herculeum*, *Ellis N. A. F.* 542.  
*Helminthosporium avenaceum*, *Curt.*  
*Helminthosporium chyocarpum*, *Ca. Fckl. F. R.* 1628.  
*Helminthosporium collabendum*, *Cke.*  
*Helminthosporium gramineum*, *Rabh. Hb. Myc.* 332.  
*Helminthosporium Libertianum*, *Roum. F. Gall.* 2894.  
*Helminthosporium minimum*, *Cke.*  
*Helminthosporium palmetto*, *Gerard.*  
*Helminthosporium resinaceum*, *Cke.*  
*Helminthosporium reticulatum*, *Cke. F. Britt. i.*, 360.  
*Helminthosporium congestum*, *B. & C.*  
*Ramularia apiospora*, *Speg. Dec. Myc. Ital.* 105.  
*Fusidium foliorum*, *West, v. Lavandulæ, Thum. F. Austr.* 887.  
*Fusidium stachydis*, *Pass. in Thum. Myc. Un.* 1565.  
*Ramularia verbasci*, *Fckl. Thum. F. Aust.* 1176.  
*Ramularia salviæ*, *Roum. F. Gall.* 1394.  
*Ramularia stellaris*, *Rabh. F. Eur.* 1466.  
*Ramularia necans*, *Pass. in Thum. Myc. Un.* 1669.  
*Ramularia montana*, *Speg. Dec. Myc. Ital.* 104.  
*Ramularia loti*, *Schrot. in Herb. Thumen.*  
*Torula opaca*, *Cke. in Ellis N. A. Fungi* 759.  
*Torula salicis*, *Fckl. F. Rhen.* 1622.  
*Verticillium Therryanum*, *Roum. F. Gall.* 2432.  
*Verticillium Vizei*, *Berk. in Vize Microjungi* No. 247.  
*Verticillium puniceum*, *Cke. & Ellis.*  
*Nematogonum simplex*, *Bon. Fckl. F. Rhen.* 149.  
*Dactylium tenellum*, *Fr. Sys. Myc. iii.*, 415.  
*Dactylium tenuissimum*, *Berk. Roum. F. Gall.* 3198.  
*Botrytis brunneola*, *Rabh. Hb. Myc.* 771.  
*Botrytis cubensis*, *B. & C.*  
*Botrytis sonchicola*, *Rabh. Hb. Myc.* 175.  
*Botrytis atrofumosa*, *C. & E.*  
*Sepedonium armeniacum*, *B. & C.*  
*Sporotrichum resinæ*, *Fr.*  
*Sporotrichum papyraceum*, *Fckl. F. Rhen.* 2109.  
*Sporotrichum nitens* (*Link.*), *Desm. Crypt. Ex.* 1841.  
*Sporotrichum foliicolum*, *Link.*  
*Sporotrichum fallax*, *Libert Crypt. Exs.* 187.  
*Myxonema assimile* (*Corda*), *Rabh. F. Eur.* 280.  
*Fusidium leptospermum*, *Pass. in Speg. Dec. M. I.* 54.  
*Fusidium knautii*, *Thum.*  
*Fusidium vaccinii*, *Fckl. F. Rhen.* 220, 221.  
*Fusidium thalictri*, *Thum. in Herb. Thumen.*

- Fusidium salicis*, *Fckl. Symb. Myc.* 370.  
*Monilia quadrifida*, *Pers. Myc. Eur.* No. 11.  
*Monilia Libertiana*, *Roum. F. Gall.* 2887.  
*Cylindrium minutissimum*, *Rabh. Unio. Itin.* xxiv.  
*Oidium farinosum*, *Cke. Grev.* xvi., 10.  
*Oidium radiosum*, *Libert Crypt. Exs.* 285.  
*Oidium cratægi*, *Grog. in Roum. F. Gall.* 881.  
*Oidium cydoniæ*, *Pass. in Thum. Myc. Univ.* 1667.  
*Oidium fusisporioides*, *Fr. Sys. Myc.* iii., 431.  
*Oidium laurocerasi*, *Bert. Rev. Mycol.*, Oct., 1880.  
*Oidium obtusum*, *Thum. Myc. Univ.* 289.  
*Oidium orobi*, *Thum. F. Austr.* 539.  
*Oidium euphorbiæ*, *Thum.*  
*Oidium succisæ*, *Karl. Rabh. F. Eur.* 791.  
*Haplotrichum buxi* (*Lib.*), *Roum. F. Gall.* 1446.  
*Aspergillus sulphureus*, *Desm. Crypt. Exs.* 554.  
*Aspergillus nigriceps*, *B. & C.*  
*Sterigmatocystis agaricini*, *Spég. MSS.*  
*Haplaria Ellisii*, *Cke.*

The following also are open to correction:—

- Torula ovalispora*, *Berk.*, is a true *Torula*.  
*Heterosporium echinulatum*, *Berk.*, grows upon Monocotyledons,  
 and is distinct from *H. exasperatum*.  
 1721 *Cladosporium pallidum*, *B. & C.* = *Cercospora*.

## CRYPTOGAMIC LITERATURE.

- COOKE, M. C. Illustrations of British Fungi, Hymenomycetes,  
 vols. v. and vi.  
 COOKE, M. C. Illustrations of British Fungi, Hymenomycetes,  
 parts 62, 63, 64.  
 HANSING, A. Ueber *Trochiscia*, Ktz., und *Tetraedron*, Ktz.,  
 in "Hedwigia," Nos. 5 and 6, 1888.  
 KARSTEN, H. Bary's Zweifelhafte Ascomyceten, in "Hedwigia,"  
 No. 6, 1888.  
 GROVE, W. B., and BAGNALL, J. E. Fungi of Warwickshire,  
 in "Midland Naturalist," June, July, 1888.  
 RATTRAY, JNO. A revision of the genus *Aulacodiscus*, in  
 "Journ. Roy. Micr. Soc.," June, 1888.  
 CRISP, F., and others. Summary of Current Researches in  
 Cryptogamia, etc., in "Journ. Roy. Micr. Soc.," June, Aug., 1888.  
 HARVEY, F. L. Fresh Water Algæ of Maine, in "Bull. Tor.  
 Bot. Club," June, 1888.



OUDEMANS, C. J. A. Contributions à la Flore Mycologique des Pays Bas. xii. (reprint).

TRACY, S. M., and GALLOWAY, B. T. Notes on Western Erysipheæ and Peronosporæ, in "Journ. Mycology," No. 5, 1888.

PAMMEL, L. H. Some Mildews of Illinois, in "Journ. Mycology," No. 5, 1888.

ELLIS, J. B., and EVERHART, B. M. Synopsis of N. A. species of Hypoxylon and Nummularia, in "Journ. Mycology," Nos. 5 and 7, 1888.

ELLIS, J. B., and EVERHART, B. M. New species of N. A. Fungi, in "Journ. Mycology," No. 5, 1888.

SCRIBNER, F. L. Report on experiments made in 1887 in treatment of Downy Mildew and Black Rot of Grape Vine, 1888.

THAXTER, ROLAND. The Entomophthoræ of the United States, in "Memoirs of Boston Society of Natural History," April, 1888.

DE SEYNES, J. Recherches pour servir à l'Histoire Naturelle des Vegetaux Inferieurs, ii., Polypores, 1888.

PHILLIPS, W. Monstrosities in Fungi. "Trans. Woolhope Club," 1881-2.

PLOWRIGHT, C. B. Fungoid diseases of the Tomato. "Trans. Woolhope Club," 1881-2.

PLOWRIGHT, C. B. Relationship of *Æcidium Berberidis* to *Puccinia graminis*, in "Trans. Woolhope Club," 1881-2.

PHILLIPS, W. Polymorphism of *Rhytisma radicale*, in "Trans. Woolhope Club," 1881-2.

PLOWRIGHT, C. B. Experiments upon the Heteræcism of the Uredines, in "Trans. Woolhope Club," 1881-2.

PLOWRIGHT, C. B. Classification of the Uredines, in "Trans. Woolhope Club," 1881-2 (1888).

FRIEND, H. Rare British Fungus (*Puccinia Liliacearum*), in "Wesley Naturalist," June, 1888.

FRIES, R. Synopsis Hymenomycetum Regionis Gothoburgensis, ex Actis Reg. Scient. Soc. Gothoburgens, xxiii., 1888.

BERLESE, A. N. Monografia dei generi *Pleospora*, *Clathrospora*, and *Pyrenophora* (with plates), from "Nuovo Giorn. Bot. Ital."

KAIN, C. H. Diatoms of Atlantic City and Vicinity, in "Bull. Torrey Bot. Club," May, 1888.

BRIDLER. *Bryum Reyeri*, n.s., in "Revue Bryologique," No. 3, 1888.

UNDERWOOD, L. M. Undescribed Hepaticæ, from California, in "Botanical Gazette," May, 1888.

FARLOW, W. G. Supplemental list of works on N. A. Fungi (Library of Harvard University), 1888.

THUEMEN, F. DE. *Die Peronospora viticola*.

PRILLIEUX, E. Les Maladies de la Vigne en 1887, in "Session Crypt. à Paris," 1887.

DANGEARD, P. A. Notes Mycologiques, in "Sess. Crypt. à Paris," 1887.

DE SEYNES, J. La Moisissure de l'Ananas in "Sess. Crypt. à Paris," 1887.

MALBRANCHE, A. Plantes rares, etc., en Normandie, in "Sess. Crypt. à Paris," 1887.

ROZE, E. Sur *Geaster Pillotii*, s.n., in "Sess. Crypt. à Paris," 1887.

BOUDIER, E. Trois nouvelles especes d'Ascoboles de France, in "Sess. Crypt. à Paris," 1887.

RICHON, C. Sur quelques especes nouvelles recoltées pendant la Session, in "Sess. Crypt. à Paris," 1887.

BERNARD, G. Sur *Lepiota echinellus*, Quel. et Bern., in "Sess. Crypt. à Paris," 1887.

FORQUIGNON, L. Description du *Coprinus Queletii*, Forq., in "Sess. Crypt. à Paris," 1887.

SMITH, T. F. On *Arachnoidiscus* as a Test Object, in "Quekett Journ.," July, 1888.

BUFFHAM, T. H. On Reproductive Organs in the Florideæ, in "Journ. Quek. Micr. Club," July, 1888.

STEPHANI. On *Anthoceros Husnoti*, n.s., in "Revue Bryologique," No. 4, 1888.

TRACY, S. M., and GALLOWAY, R. T. Notes on Western Uredineæ, in "Journ. Mycology," July, 1888.

ELLIS, J. B., and EVERHART, B. M. New species of Fungi, in "Journ. Mycology," July, 1888.

CAVARA, DR. F. Sul fungo che e causa del "Bitter rot" (Laboratorio Crittogamico Italiano).

MARTELLI, U. Nota supra una forma singulare di *Agaricus*, in "Nuovo Giorn. Bot. Ital.," July, 1888.

MARTELLI, U. Due funghi nuovi dell' agro Bellunese, in "Nuovo Giorn. Bot. Ital.," July, 1888.

MACCHIATI, L. La Diatomaceæ nella fontana di Modena, in "Nuovo Giorn. Bot. Ital.," July, 1888.

MACCHIATI, L. Diatomaceæ del Lago Santo, in "Nuovo Giorn. Bot. Ital.," July, 1888.

MACOUN, J. Bryological Notes in "Bull. Torr. Bot. Club," July, 1888.

GROVE, W. B. *Pimina*, novum *Hyphomycetum* genus, in "Journ. Bot.," July, 1888.

MURRAY, G. Catalogue of Marine Algæ of West Indian Region, "Journ. Bot.," July, 1888.

MULLER, J. Lichenologische Beitrage, xxix., in "Flora," No. 13, 1888.

HANSGIRG, A. Ueber *Herpoteiron* und *Aphanochaete*, in "Flora," No. 14, 1888.

HANSGIRG, Dr. A. Ueber die *Hormidium*, *Hormiscia*, &c., in "Flora," No. 17, 1888.

QUELET, Dr. Quelques especes de la Flore mycologique de France. Association Francaise, Toulouse, 1887.

BOUDIER, E. Note sur le *Tremella fimetaria*, Schum.

BOUDIER, E. Sur une nouvelle espece d'Helvelle (*H. pithyophila*). "Journ. de Bot.," Sept., 1887.

BOUDIER, E. Description de deux nouvelles especes de *Ptychogaster*. "Journ. de Bot.," Feb., 1887.

BOUDIER, E. Notice sur les Discomycetes figures dans les dessins inedits de Dunal in "Bull. Soc. Myc."

BOUDIER, E. De l'effet pernicieux des Champignons sur les arbres et les bois.

BOUDIER, E. Trois nouvelles especes d'ascoboles de France, in "Bull. Soc. Bot. de France," tom. xxxiv.

BOUDIER, E. Note sur une forme conidifere du *Polyporus biennis*, in "Bull. Soc. Bot. de France," tom. xxxiv.

BALEFOUR, J. B. The Botany of Socotra, Fungi by M. C. Cooke, Mosses by W. Mitten, Lichens by Dr. J. Muller, Algæ by Dr. Dickie, Diatomaceæ by F. Kitton, in "Trans. Roy. Soc. Edin.," Vol. xxxi, 1888.

ROUMEGUERE, C. Fungi Selecti Exsiccati, cent. 45, 46.

MULLER, C. J. Lichenes Paraguensis, in "Revue Mycologique," July, 1888.

BRIARD, M. Champignons nouveaux de l'Aube, in "Revue Mycologique," July, 1888.

PATOUILLARD, N. Sur quelques especes de *Meliola* nouvelles, &c., in "Revue Mycologique," July, 1888.

KARSTEN, P. A. Fungi novi Fennici, in "Revue Mycologique," July, 1888.

HUSNOT, T. Muscologia gallica, Part vii.

REINSCH, P. F. Familiæ Polyedricarum Monographia accedunt, species 15, in "Notarisia," July, 1888.

MASSEE, GEO. On the presence of sexual organs in *Æcidium*, in "Annals of Botany," Vol. ii., No. 5.

MASSEE, GEO. A monograph of the genus *Calostoma*, in "Annals of Botany," Vol. ii., No. 5.

ROSTRUP, E. Fungi Groenlandiæ.

# Grevillea,

A QUARTERLY RECORD OF CRYPTOGAMIC BOTANY  
AND ITS LITERATURE.

## SYNOPSIS PYRENOMYCETUM.

(Continued from Vol. XVI., p. 92.)

Fam. 11. **LOPHIOSTOMACEÆ.** Perithecia subsuperficialia, ostioli compresso, plus minusve lato, rimoso.

GEN. 1. **LOPHIOSPHERA**, Trev. Sporidia oblonga v. fusoides, hyalina.

### A. *Sporidiis uniseptatis, muticis.*

- |   |                                  |
|---|----------------------------------|
| 3529. viticola, Sacc. ... 5409          | 3534. intricata, Nke. ... 7518   |
| 3530. querceti, S. & S. ... 5407        | 3535. Beckhausii, Nke. ... 7519  |
| 3531. lignicola, Sacc. ... 5408         | 3536. perpusilla, Sacc. ... 5410 |
| 3532. hysterioides, Schwz. 5523         | 3537. schizostoma, Mont. 5406    |
| 3533. vigneffulensis,<br>Pass. ... 7344 |                                  |

### B. *LAMBOTTIELLA. Sporidiis uniseptatis, appendiculatis.*

- |   |                                 |
|---|---------------------------------|
| 3538. pulveracea, S. ... 5414             | 3541. Fuckelii, Sacc. ... 5415  |
| 3539. heterostoma, Ell. &<br>Ev. ... 7520 | 3542. anaxæa, Sacc. ... 5411    |
| 3540. bonariensis, Speg. 5413             | 3543. glacialis, Rehm. ... 5412 |

### C. *LOPHIOTRICHA. Peritheciis pilosis, sporidiis uniseptatis.*

3544. viburni, Rich. ... 7345

### D. *LOPHIOTREMA. Sporidiis 2-pluriseptatis.*

#### \* *Sporidiis muticis.*

- |                                |   |
|--------------------------------|---|
| 3545. simile, Nke. ... 7521    | 3555. loniceræ, Fab. ... 5421             |
| 3546. hederæ, Fckl. ... 5416   | 3556. cotini, Fab. ... 5422               |
| 3547. recedens, Sch. & S. 7346 | 3557. rubidum, Sacc. ... 7348             |
| 3548. duplex, K. ... 5417      | 3558. littorale, Speg. ... 5423           |
| =corticivora, Rehm.            | 3559. coryli, Fab. ... 5424               |
| 3549. Notarisii, Nke. ... 7522 | 3560. glandium, Fab. ... 5425             |
| 3550. leucosporum, Nke. 7523   | 3561. stenogramma, D.<br>R. & M. ... 5426 |
| 3551. nucula, Fr. ... 5419     | 3562. præmorsum, Lasch. 5427              |
| 3552. Cookei, Nke. ... 7524    | 3563. hungaricum, Rehm. 6178              |
| 3553. pallidum, Ell. ... 7347  | 3564. semiliberum, Desm. 5428             |
| 3554. crenatum, Pers. ... 5420 |   |

- |  |                                       |
|--|---------------------------------------|
| 3565. culmifragum, <i>Sp.</i> 5429     | 3575. ampelinum, <i>Rehm.</i> 5438    |
| 3566. pusillum, <i>Fckl.</i> ... 5430  | 3576. pygmæum, <i>S.</i> ... 5439     |
| 3567. artemisiæ, <i>Fab.</i> ... 5431  | 3577. cadubriæ, <i>Sp.</i> ... 5440   |
| 3568. sexnucleatum, <i>Oke.</i> 5432   | 3578. alpigenum, <i>Fckl.</i> 5441    |
| 3569. scrophulariæ, <i>Peck.</i> 5433  | 3579. massarioides, <i>Sacc.</i> 5442 |
| 3570. thymi, <i>Fab.</i> ... 5434      | 3580. spireæ, <i>Peck.</i> ... 5443   |
| 3571. vagabundum, <i>S.</i> ... 5435   | 3581. Thumenianum, <i>Sp.</i> 5444    |
| 3572. emergens, <i>K.</i> ... 7349     | 3582. Mollerianum, <i>Wint.</i> 7350  |
| 3573. origani, <i>Kze.</i> ... 5436    | 3583. socotrense, <i>Oke., Trans.</i> |
| 3574. helichrysi, <i>Fab.</i> ... 5437 | <i>Roy. Soc. Edin.,</i> 1888          |

**\*\* VIVIANELLA.** *Sporidiis appendiculatis.*

- |                                       |                                   |
|---------------------------------------|-----------------------------------|
| 3584. sedi, <i>Fckl.</i> ... 5445     | v. genistarum, <i>S.</i>          |
| 3585. affine, <i>Sp.</i> ... 5446     | 3588. Winteri, <i>S.</i> ... 5449 |
| 3586. cristatum, <i>Fab.</i> ... 5447 | 3589. auctum, <i>S.</i> ... 5450  |
| 3587. angustilabrum, <i>B.</i>        |                                   |
| & <i>B.</i> ... 5448                  |                                   |

**\*\*\* LOPHIONEMA.** *Sporidiis filiformibus, septatis.*

- |                                      |                               |
|--------------------------------------|-------------------------------|
| 3590. vermisporum, <i>Ellis</i> 5552 | 3591. crenatum, <i>Schwz.</i> |
|--------------------------------------|-------------------------------|

**GEN. 2. LOPHIOSTOMA.** *Sporidia fusca.*

**\* LOPHIELLA.** *Sporidia navicularia.*

- |                                       |
|---------------------------------------|
| 3592. cristata, <i>Pers.</i> ... 5397 |
|---------------------------------------|

**\*\* SCHIZOSTOMA.** *Sporidia bilocularia.*

- |                                       |  |
|---------------------------------------|--|
| 3593. montelicum, <i>Sacc.</i> 5398   | 3598. tuyutense, <i>Sp.</i> ... 5403       |
| 3594. vicinum, <i>S.</i> ... 5399     | 3599. pachythele, <i>B. &amp; Br.</i> 5404 |
| 3595. vicinissimum, <i>Sp.</i> 5400   | 3600. Schomburgkii, <i>B.</i> 5405         |
| 3596. Bellunense, <i>Sp.</i> ... 5401 | 3601. microsporum, <i>Pass.</i> 7343       |
| 3597. vicinellum, <i>S.</i> ... 5402  |  |

**\*\*\* GENUINA.** *Sporidia 3-pluriseptata.*

**A. Eu-lophiostoma.**

**† Sporidia triseptata.**

- |   |  |
|---|--|
| 3602. stenostomum, <i>Ell.</i>            | 3611. cultum, <i>Nke.</i> ... 7527     |
| & <i>Ev.</i> ... 7351                     | 3612. corni, <i>Pass.</i> ... 7353     |
| 3603. quadrinucleatum,                    | 3613. viridarium, <i>Cke.</i> ... 5457 |
| <i>K.</i> ... 5451                        | 3614. isomerum, <i>Nke.</i> ... 7528   |
| 3604. rhopaloides, <i>Sacc.</i> 5452      | 3615. triseptatum, <i>Peck.</i> 5458   |
| 3605. Barbeyanum, <i>S. &amp; R.</i> 7352 | 3616. rubicolum, <i>Nke.</i> ... 7529  |
| 3606. absconditum, <i>Pass.</i> 5453      | 3617. subcollapsum, <i>Ell.</i>        |
| 3607. cæspitosum, <i>Fckl.</i> 5454       | & <i>Ev.</i> ... 7525                  |
| 3608. argentinum, <i>Sp.</i> ... 5455     | 3618. maculans, <i>Fab.</i> ... 5459   |
| 3609. demissum, <i>Nke.</i> ... 7526      | 3619. fallax, <i>Fab.</i> ... 5460     |
| 3610. dumeti, <i>Sacc.</i> ... 5456       | 3620. fallacissimum, <i>K.</i> 7354    |

3621. <i>syringæ</i> , <i>Fab.</i> ...	5461	3626. <i>granulosum</i> , <i>Cr.</i> ...	5466
3622. <i>juniperi</i> , <i>Fab.</i> ...	5462	3627. <i>Desmazierii</i> , <i>S. &amp; S.</i>	5467
3623. <i>Requieni</i> , <i>Fab.</i> ...	5463	3628. <i>insculptum</i> , <i>Rehm.</i>	5468
3624. <i>acervatum</i> , <i>K.</i> ...	5464	3629. <i>striatum</i> , <i>Sacc.</i> ...	7355
3625. <i>rhizophylum</i> , <i>B. &amp; C.</i> ...	5465	3630. <i>floridanum</i> , <i>Ell &amp; Ev.</i> ...	7356

†† *Sporidia 4-vel pluriseptata.*

3631. <i>macrostomoides</i> , <i>Not.</i> ...	5469	3651. <i>Stuartii</i> , <i>Fab.</i> ...	5485
3632. <i>perversum</i> , <i>Not.</i> ...	5470	3652. <i>arundinis</i> , <i>Fr.</i> ...	5486
= <i>quercini</i> , <i>Rehm.</i>		3653. <i>brachypodii</i> , <i>Fab.</i>	5487
3633. <i>pseudo macrostomum</i> , <i>S.</i> ...	5471	3654. <i>crista-galli</i> , <i>D. &amp; M.</i>	5488
= <i>Lojkanum</i> , <i>Rehm.</i>		3655. <i>collinum</i> , <i>Sp.</i> ...	5489
3634. <i>myriocarpum</i> , <i>Fckl.</i>	5418	3656. <i>berberidis</i> , <i>Nke.</i> ...	7530
3635. <i>Fleischakii</i> , <i>Awd.</i> (sec. Winter)		3657. <i>ligustri</i> , <i>Nke.</i> ...	7531
3636. <i>oreophilum</i> , <i>Sp.</i> ...	5472	3658. <i>vexans</i> , <i>Nke.</i> ...	7532
3637. <i>pinastri</i> , <i>Nssl.</i> ...	5473	3659. <i>anisomerum</i> , <i>Nke.</i>	7533
3638. <i>turritum</i> , <i>C. &amp; P.</i>	5474	3660. <i>galeopsidis</i> , <i>Nke.</i> ...	7534
3639. <i>prominens</i> , <i>Peck.</i>	5475	3661. <i>spartii</i> , <i>Nke.</i> ...	7535
3640. <i>fibritectum</i> , <i>B.</i> ...	5476	3662. <i>biforme</i> , <i>Nke.</i> ...	7536
3641. <i>simile</i> , <i>Nke.</i> ...	5477	3663. <i>galii</i> , <i>Nke.</i> ...	7537
3642. <i>subcorticalis</i> , <i>Fckl.</i>	5408	3664. <i>dipsaci</i> , <i>Nke.</i> ...	7538
3643. <i>ericarum</i> , <i>Fab.</i> ...	5478	3665. <i>prominens</i> , <i>Nke.</i> ...	7539
3644. <i>scelestum</i> , <i>C. &amp; E.</i>	5479	3666. <i>palustre</i> , <i>Nke.</i> ...	7540
3645. <i>macrostomellum</i> , <i>Ces.</i> ...	5480	3667. <i>parvulum</i> , <i>Nke.</i> ...	7541
3646. <i>mendax</i> , <i>Not.</i> ...	5481	3668. <i>phragmitis</i> , <i>Nke.</i>	7543
3647. <i>caulium</i> , <i>Fr.</i> ...	5482	3669. <i>Sauteri</i> , <i>Nke.</i> ...	7543
3648. <i>centranthi</i> , <i>Duby.</i>		3670. <i>nigricans</i> , <i>Nke.</i> ...	7544
3649. <i>vagans</i> , <i>Fab.</i> ...	5483	3671. <i>Nitschkei</i> , <i>Lehm.</i>	7545
3650. <i>characiæ</i> , <i>Fab.</i> ...	5484	3672. <i>typhæ</i> , <i>Nke.</i> ...	7546
		3673. <i>commutatatum</i> , <i>Nke.</i>	7547
		3674. <i>ulicis</i> , <i>Nke.</i> ...	7548
		3675. <i>diaporthæ</i> , <i>Nke.</i> ...	7549
		3676. <i>lappæ</i> , <i>Nke.</i> ...	7550

B. NAVICELLA. *Species majores.* *Sporidia mutica, pluriseptata.*

3677. <i>macrostomum</i> , <i>Tode</i> ...	5490	3683. <i>magnatum</i> , <i>C. &amp; P.</i>	5495
3678. <i>excipuliforme</i> , <i>Fr.</i>	5491	3684. <i>dolabriforme</i> , <i>Fr.</i>	5494
3679. <i>congregatum</i> , <i>Hark.</i> ...	7357	3685. <i>julii</i> , <i>Fab.</i> ...	5496
3680. <i>Balsamianum</i> , <i>Not.</i>	5492	3686. <i>elegans</i> , <i>Fab.</i> ...	5497
3681. <i>pileatum</i> , <i>Tode</i> ...	5493	3687. <i>salicum</i> , <i>Fab.</i> ...	5498
3682. <i>Bommerianum</i> , <i>S. &amp; R.</i> ...	7358	3688. <i>ulmi</i> , <i>Fab.</i> ...	5499
		3689. <i>Gaudefroyi</i> , <i>Fab.</i>	5500
		3690. <i>macrosporum</i> , <i>Sp.</i>	5501

C. ROSTELLA. *Sporidia appendiculata.*

- |  |  |
|--|--|
| 3691. insidiosum, <i>Desm.</i> 5502                      | 3698. rutæ, <i>Fab.</i> ... 5508               |
| 3692. gramineum, <i>S.</i> ... 5503                      | 3699. silai, <i>Fab.</i> ... 5509              |
| 3693. intermedium, <i>S.</i> ... 5504                    | 3700. cynopis, <i>Fab.</i> ... 5510            |
| 3694. Niessleanum, <i>S.</i> ... 5505                    | 3701. appendiculatum,<br><i>Fckl.</i> ... 5511 |
| 3695. menthæ, <i>Kirch.</i> ... 5506                     | 3702. papillatum, <i>Pass.</i> 7360            |
| 3696. roseotinctum, <i>Ell.</i><br>& <i>Ev.</i> ... 7359 | 3703. bicuspidatum, <i>Oke.</i> 5512           |
| 3697. ruscicola, <i>Fab.</i> ... 5507                    | 3704. simillimum, <i>K.</i> ... 5513           |

D. BRIGANTIELLA. *Sporidia caudata.*

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| 3705. caudatum, <i>Fab.</i> ... 5514 | 3706. dacryosporum, <i>Fab.</i> 5515 |
|--------------------------------------|--------------------------------------|

E. *Species dubiæ.*

- |                                       |  |
|---------------------------------------|--|
| 3707. ventricosum, <i>Pers.</i> 5516  | 3713. truncatum, <i>Pers.</i> 5522           |
| 3708. utriculus, <i>Reb.</i> ... 5517 | 3714. thapsi, <i>Schwz.</i> ... 5524         |
| 3709. hysterinum, <i>Wall.</i> 5518   | 3715. variabile, <i>Schwz.</i> ... 5525      |
| 3710. liberum, <i>Tode.</i> ... 5519  | 3716. abbreviatum,<br><i>Schwz.</i> ... 5526 |
| 3711. cirrhosum, <i>N.</i> ... 5520   |  |
| 3712. subrugosum, <i>Schw.</i> 5521   |  |

GEN. 3. **LOPHIDIUM**, *Sacc.*—*Sporidia muriformia, fusca.*

- |  |  |
|--|--|
| 3717. tingens, <i>Ell.</i> ... 5527                  | 3732. nuculoides, <i>S.</i> ... 7362                         |
| 3718. scorpii, <i>Fab.</i> ... 5528                  | 3733. ambiguum, <i>Fab.</i> ... 5540                         |
| 3719. cotini, <i>Fab.</i> ... 5529                   | 3734. curtum, <i>Fr.</i> ... 5541                            |
| 3720. minus, <i>Ellis</i> ... 6179                   | 3735. diminuens, <i>P.</i> ... 5542                          |
| 3721. spartii, <i>Fab.</i> ... 5530                  | 3736. pachysporum, <i>S.</i> 5543                            |
| 3722. compressum, <i>P.</i> ... 5531                 | 3737. thyridioides, <i>S. &amp; S.</i> 5544                  |
| = <i>angustata</i> , <i>P.</i>                       | 3738. psilogrammum, <i>D.</i><br><i>R. &amp; M.</i> ... 5545 |
| 3723. pseudo-compressum, <i>S. &amp; B.</i> ... 7361 | 3739. fenestrale, <i>C. &amp; E.</i> 5546                    |
| 3724. nobile, <i>S.</i> ... 5532                     | 3740. fraudulentum, <i>D.</i><br><i>R. &amp; M.</i> ... 5547 |
| 3725. deflectens, <i>K.</i> ... 5533                 | 3741. ruborum, <i>Cr.</i> ... 5548                           |
| 3726. subcompressum, <i>K.</i> 5534                  | 3742. aromaticum, <i>Fab.</i> 5549                           |
| 3727. graphidosporum,<br><i>Anzi.</i> ... 5535       | 3743. santolinæ, <i>Fab.</i> ... 5550                        |
| 3728. ramorum, <i>Nke.</i> ... 5536                  | 3744. hygrophilum, <i>S.</i> ... 5551                        |
| 3729. obtectum, <i>Peck</i> ... 5537                 | 3745. brachystomum,<br><i>Nke.</i> ... 7551                  |
| 3730. gregarium, <i>Fckl.</i> 5538                   | 3746. Crouani, <i>Nke.</i> ... 7552                          |
| 3731. populi, <i>Fab.</i> ... 5539                   |  |

## NOTES AND QUERIES ON RUSSULÆ.

By M. C. COOKE.\*

Apology of some kind seems necessary for the introduction of technical papers at unseasonable times, but opportunity has for the past two years been exceptionally rare for the consideration of

\* Paper read at the Woolhope Field Club, Oct. 4, 1888.

technical subjects at the Woolhope Foray, and although dinners and soirées may, in a sense, be degraded from their high office by such an interpolation, it is a deed of necessity which excuses the demoralization.

Opportunities for the discussion, face to face, amongst mycologists of points of difficulty are exceedingly rare, and indeed the present is almost the only chance from year to year of "settling up," so that it is almost too great a sacrifice to expect us to abandon it without a struggle. Into whatever branch of Natural History a person plunges, it is inevitable that the deeper he goes the more subtle will be the difficulties he encounters, and probably, at the same time, the keener will be his sense of the reconciliations which may be effected. Experience is a much more efficient guide than books, but this source of knowledge has no efficiency except for the individual, if driven to isolation, or condemned to a persistent monopoly of the results. It matters not that one has struggled with difficulties for years, until perhaps he sees bright glimpses of light through the darkness, if he is to die and make no sign. Labour will have been useless, save to him, if he fails to communicate to others his hopes and fears, his interpretations of dimly discerned facts, or his suspicions of accepted tradition. This may be received as the best apology which can be offered for an unwelcome intrusion, and, with such a prospect before us, for the succeeding ten minutes we can only advise the uninterested to close their eyes for that brief period, and sink into the oblivion of profound repose. It will be admitted, without proof, that the study of the genus of *Russula*, amongst Fungi of the Mushroom type, is one which has been regarded as about the most difficult. Of course there are difficulties everywhere, especially when no effort is made to surmount them, but the difficulties in the way of the determination of species, with any degree of personal satisfaction, in this peculiar genus must be tried to be appreciated. *Cortinarius* has its difficulties, for example, but they appear to dwindle in the face of those which beset *Russula*. This genus, nearly all the species of which were in the remote past lumped together under the one name of *Agaricus integer*, is remarkable in many particulars, but in none more than in the general sameness of habit, home, and structure, and the great variety of their coloration. None of the Agaricini present more brilliant colours, or in greater variety, and none perhaps less diversity in form. This seems to be an initial difficulty, for if form varies so little, and colour is not to be relied upon, how is determination to be accomplished? It may be affirmed that, at the outset, there is less difficulty in fixing the genus than in almost any other, for the merest tyro is soon able to declare this or that to be a *Russula*, when he would be puzzled over a *Marasmius* or a *Cortinarius*. With a *Russula*, then, pure and simple, there is no difficulty. No one ever encounters a difficulty of that sort, but when you ask "What *Russula*?" then you are face to face with the "cardinal sin." It is the determination of the species of



*Russula* that puzzles the best of us. And why? Because of the absence of broad distinctive features which assist so much in other groups. There are no cæspitose species, for all are solitary. There are no lignicolous species, for all are terrestrial. There are no squamose or scaly species, for all are more or less smooth. Hence the characters by which one species may be distinguished from another in other groups are in this reduced to a minimum, so that they have to be supplemented by other and new distinctions which prevail here, but are not recognized, or but faintly elsewhere. Another cause of difficulty, in my mind, exists in the undue limitation of species or varieties. It is of no consequence whether one regards them as species, and another as varieties, the thing needed is a definite isolation of distinct forms, so that any species or individual met with can without difficulty be set in its proper place. The species recognized by Fries may all be good enough species as he understood them, but his diagnoses are often too general, and embrace too much for ordinary use. The average mycologist requires more than the diagnoses of Fries will give. In some instances, perhaps, the species will cover only a reasonable range, such as *Russula fellea*, *Russula sanguinea*, *Russula latea*, *Russula nigricans*, and *Russula depallens*, with some others, but constantly individuals are met with, such as those named recently as *Russula Barlæ*, *Russula punctata*, *Russula granulosa*, *Russula drimeia*, which would puzzle anyone who attempted to place them under the species of Fries. No alternative exists, as it seems to us, but to increase the number of recognized forms if the identification of *Russulæ* is to be accomplished with anything like success by the average mycologist. Let it not be understood that we advocate an indiscriminate manufacture of new species, we would recommend that only such individuals should be referred to a species as the description will fairly cover, and that forms aberrant from these should be clearly recognized and indicated by definite names.

Here it may be inquired, What are the features to be taken into account in the characterization of species in the genus *Russula*? Perhaps on the answer to this question the gist of the subject depends. There could be no objection to take one of the *diagnoses* of Fries and accept that as sufficient indication of the characters to be recognized. Bear in mind that we state expressly one of the "diagnoses" of Fries, leaving out all question as to the individuals which those diagnoses have hitherto been made to cover, because they have been made to cover at least twenty fairly good species, which have lately been separated, and may possibly include as many more. The characters seem to be the following, as they stand in Fries:—Taste—pileus, form and character (Fries always has excluded colour from the diagnosis of the pileus)—cuticle—margin—stem, without and within—gills—form, attachment and colour—and in some instances odour. Taking first for comment *taste*, and *odour*. It may be urged that these should be regarded

as *accessory*, rather than *principal*, or at least applied with judgment, and not absolutely. Because, there is no more foetid a species than *R. foetens* and no species so unmistakable, it remains without dispute that *R. foetens* would never be confounded by even a young mycologist, without smelling it, to anything else. Within the past ten years we have occasionally had specimens of *R. foetens* which had no foetid odour (a fact which might be accounted for), but on the contrary were positively fragrant, as strong and as pleasant as the odour of *Agaricus odoratus*, from which the odour could not be distinguished. This was corroborated this year in Epping Forest by Mr. Massee, where he remarked the same phenomenon. *Apropos* of odour, we encountered on one occasion a specimen of *Phallus impudicus* from which all the slimy green matter had disappeared, and all that was left was nearly as white as ivory and of a most pleasant odour, reminding one strongly of violets. Exception has been taken to this fact, when the circumstance has been alluded to, and although we have suffered under the imputation of "drawing the long bow" for fifteen years at least (when this experience was encountered), it will perhaps one day be admitted, by those who think they know everything that is possible for Nature to accomplish, that there really was once such a miracle performed as a *Phallus* with the odour of violets, as well as *Russula foetens* resembling anise.

Odour must, therefore, always have some latitude, more especially those odours, the appreciation of which, like that of female beauty, resides so much in the nose and eyes of the spectator. There is hardly any odour associated with fungi, good, bad, or indifferent, in which more than two persons can be found at the same time to agree. Nearly all will admit the odour, but not the same odour. For example, there is an odour prevalent amongst *Lactarii*. Let anyone put it to the test. No. 1 says "odour of bugs," No. 2 says "fenugrec," No. 3 says "Ligusticum," No. 4 says "empyreumatic," No. 5 says "camphor," No. 6 diluted "asafœtida," and so on through a considerable range of obscure odours, but never more than about two will accord in ascribing it to the same odour. If in odour, so also in taste, even more than odour, there must be catholicity. *Russula rubra* is very acrid, no doubt about it, when in a really prime condition. Then even the most inveterate smoker will confess it a thorough "pick me up" for its pungency. How, then, can we explain the fact that at Breinton some years since, and at Epping Forest this year, a *Russula* precisely identical in all external features, and those of a remarkable character, should to the taste prove as mild and pleasant as a new filbert. It improves the case very little to say that the mild *Russula* was figured by Krombholz, and called *Russula atropurpurea*, which Fries included as a variety of *Russula integra* at one time, and at another hinted it as a mild aberrant *Russula emetica*. Must taste go for nothing? Certainly that is not our opinion. But it should hardly supersede every and all other features. Here is a

case in point. Is *Russula atropurpurea* only a mild form of the acrid *Russula rubra*, with which it appears to accord in everything but taste, or are the two to be maintained as *distinct* upon the faith of one sole and single character? Let each be persuaded in his own mind, all we desire to contend for is this, that for the sake of the inexperienced mycologist, both of the present and future, such anomalies should *not* be ignored, but placed upon record, either as forms or varieties. As a general rule the distinctions "mild" and "acrid" hold fairly well both in *Lactarius* and *Russula*, and, we think, are as reasonably permanent as any other character, for absolute permanency is a dream of the past; "slowly acrid," "mild then acrid," will always suffer some interpretation akin to non-recognition, a sort of neutral character, of no intrinsic value. Faint odours and uncertain tastes are valueless, except to mislead, and this implies condemnation of the method adopted by some persons in making it to form part of their characteristic diagnosis of new species that its "odour reminds one of the rose," or "faintly aromatic," or "calling to mind the perfume of melilot." These are all very well to put in a foot note, but they are too volatile and uncertain for a diagnosis, and certainly are out of place in such a genus as *Russula*, where, with the single exception of *Russula satens*, decided odours, except the fishy odour associated with decay, are generally conspicuous by their absence.

Unfortunately, throughout *Russula*, spore character is of the most limited value in specific identification. There is such a close similarity that the minute distinction of one or two micromillimetres is practically useless. The common type of a rough sub-globose spore of about  $10\ \mu$  prevails, seldom, perhaps, completely globose, but seldom exceeding more than  $1$  to  $2\ \mu$  in one direction over the other. The occasional occurrence of a species with entirely smooth spores, if confirmed at all ages, would be exceptional, and add to the value of the character.

Colour of gills and spores require more careful consideration than some of us have given to them. The decided gills of *Russula lutea*, *Russula armeniaca*, and *Russula drimeia*, with some others, could not be overlooked, but there are species, several of them, including some forms of *Russula integra*, in which living and vigorous plants show no tinge of yellow when gathered, but after resting all night and drying, the gills and the deposited spores will exhibit too decided an ochraceous tint to be disregarded. It scarcely need be said that we hold no doubt on this point, that the colour of the spores, if a decided colour and not a faint tinge, can never be disregarded. The same species, however similar in other respects, cannot be accepted with white and with ochraceous spores; perhaps each section of the genus, as recognized by Fries, would be much better, for working purposes, if divided, as the *Fragiles* section is divided, into sub-sections *Leucospori* and *Xanthospori*. In passing, it may be urged that it does not follow that because the gills have, or seem to have, a tinge of colour, the spores are necessarily coloured.

There are instances in which the gills are tinted more or less, but the spores are as white as in species which have permanently white gills.

The colour of the pileus deserves some remark. It has been considered hitherto that colour in the pileus is so very variable in this genus that it is absolutely valueless. No doubt this idea originated in the days when all *Russulæ* came under one or two species. Ultimately we venture to think that colour will be accepted to be as permanent in *Russula* as in *Amanita* or *Hygrophorus*—taking “permanent” to mean persistency in the same tones of colour in the different species. Many of the colours are very bright, and in some instances is confined to a thin cuticle, so that decoloration, more than usual, may be looked for, but this is a discharge of colour, and not an alteration of colour. And to a limited extent the turning yellow or the darkening of tints by age, moisture, or decay, would be regarded as natural changes, the original tone being preserved, and not a variation of colouring in the general acceptation of that term.\*

Some of the high-coloured and over-coloured figures of *Russula*, in the books of the early part of the present century, helped to keep alive the notion of the very great variability of colour in this genus, whereas the undoubted fact is, that a great deal of the variability existed in the minds of the several authors, and the paint boxes of their artists. No figures of “Champignons” have been so exaggerated and overdone as *Russula*; in fact, many of them are only caricatures. Impossible greens, cœrulean blues, and reds gone mad characterize the majority. There is no more hopeless task than the attempt to classify under their respective species the legion of figures of *Russula*, which have dazzled the world. Illustrating our thesis that coloration in *Russula* is not such an indefinite and intangible thing as some have alleged, we will take one or two of the worst species.

First and foremost, one of the most protean in colour, as understood by Fries, was *Russula fragilis*. Judging from the figures, it is green, green and pink, pink, scarlet, crimson, purple, violet, red-brown, yellow, ochraceous, and white, and perhaps something more. First of all we strike out *green*, as no ingredient, wholly or in

\* It was our intention to have remarked upon the loose application sometimes made of the two words “decoloration” and “discoloration,” and must do so in a foot note. We would contend that they do not imply the same thing, and should be recognized at their true value. “Discoloration” may be an alteration of colour, from one colour to another, as a purple disc may be discoloured brown, or a pink edge turn foxy, but we contend that this is not “decoloration,” which is a process of blanching, or discharge of colour like that which takes place in *Russula depallens*. Hence “discoloration” may be a change of colour, but “decoloration” an absolute loss of colour. It is by a clear definition of terms that something will be done to facilitate study, and even this remark need not have been made, but that some persons who have written books appear to interpret both words alike.

part, of any form of *Russula fragilis*. What it was intended for we do not attempt to determine. Yellow is now represented by *Russula citrina* of Gillet. Violet by *Russula violascens* of Secretan, the ochraceous form, which seems to have been mild, and, therefore, not *Russula fragilis* at all, by *R. fimbilis*, Britz. The white is, of course, the *Russula niveus* of Persoon, and may be only an etiolate form, and then we have still left only the different shades of red, which now are held to constitute the species *Russula fragilis*. In its deepest tints it may verge on rosy scarlet, or crimson, but through all gradations of tints the tone remains the same, now and then spotted with bleached places, where exposed to strong light, and as decay commences the blanched cuticle turns yellowish, or foxy, not resulting from mutation of colour, but decay in the cells. Here, then, we have that variable species *Russula fragilis* simply reduced to a red species, subject to blanching and spotting by exposure to light, like as all the other bright species are liable to similar accidental change.

Of *Russula integra* and *Russula alutacea* we will venture to say nothing at present, because up to now our opportunities have been few, and those chiefly in the direction of finding a well-defined limit between two such similar species.

*Russula cyanoxantha* appears to be one of our commonest species, and *R. heterophylla* one of the most uncommon, if the diagnosis of Fries is to be relied upon, and not tradition. Doubtless *Russula cyanoxantha* does present in its extremes of intensity, and size, strange contrasts, but were the most sceptical to collect all the specimens possible during a whole day, until they numbered at least one hundred good sound specimens, as we have done in this current year, it is doubtful if their mind would ever be troubled with scepticism again in respect of this species. With a pileus from 1½ in. to near six inches in size, from the faintest blush of colour to the deepest tints, and yet unity in all such seeming variety. Intrinsically a margin with a rosy tone, more or less sobered with purple, a pale disc, and between the two a dark zone of dull indefinable mixture of neutral green with purple, and that is the type for all the specimens we can meet with of *R. cyanoxantha*. The infinite variety being made up, not of any change of colours or their position, but simply of their greater or less intensity, the part occupied by the median zone being streaked in a radiate manner by darker lines, either quite smooth or palpably rugose.

Some may remark that there is no difficulty in that species, but it is otherwise with *R. heterophylla*. And here it may only be individual opinion, and so must be rated just at what it is worth, but we think two forms of *R. heterophylla* may be recognized, keeping in mind the strict limit imposed by Fries of "Lamellis angustissimis, confertissimis." These two forms, both of which are uncommon, correspond to the *Russula heterophylla*, Fries, for the greenish forms, and *Russula heterophylla*, Bulliard (t. 509, f. O.),

for the brown forms, each characterized by very much crowded and very narrow white gills.

We presume that there always will be, with the most carefully arranged classification of species, instances occurring in the experience of all, of isolated individuals which it is difficult to place. It is a common occurrence, perhaps, with the most experienced, but even in such cases, wherever careful drawings have been kept, time may provide the missing link. As a rule, it is doubtful whether these isolated individuals are worth the labour they entail, because they are mostly isolated, and the result of some accidental variation. Whereas it is with constantly recurring, and reasonably permanent, types that our best time will be spent.

The only other species to which we shall now allude is *R. xerampelina*, not at all a common one, and perhaps sometimes carelessly referred to *R. integra*. As to the colour of the pileus, all the variability seems to be in the intensity of the marginal colour, the disc holds its character of tawny yellow, verging on reddish brown, broken up into little punctiform scales. The marginal tint is purple, with more or less admixture of red or brown, but differing, as in other species, more in the intensity of the colour than in any variation in the elemental colours. There need be no hesitation with such a well defined species, when sufficiently mature to see the characteristic features of the disc, combined with the form and tint of the gills.

Of the coloration of the stem little can be said of any of the species in which it occurs. It is rarely constant, especially where the colour is red; species, such as *R. Queletii*, in which it is purple, are more invariable, and those in which the stem becomes grey, *R. depallens*, *R. ochroleuca*, etc., the stem is at first white, and the grey colour is acquired by age, and is always faint, but indisputable.

Before leaving the stem, it may be pertinent to observe that in the diagnosis of some species considerable emphasis is placed on the rugosity of the stem. It is not infrequent to read that the stem is reticulately rugose. Admitted that it is more strongly marked in some species than in others, yet it appears to us that if a lens is employed, as it often is by an enthusiastic mycologist, he will probably grow sceptical as to whether there is such a thing as a species of *Russula* with a perfectly even stem, free from striæ in all ages and conditions. If so they are, at least, more rare than absolutely rugose stems.

Internal changes of colour, or discoloration of the flesh, seems to be a valuable character, where it assumes a positive and definite tone, and does not bear the impress of caprice, as often appears to be the case in externally coloured stems. *Russula nigricans*, *R. densifolia*, *R. semicrema*, *R. decolorans*, *R. rhytipes*, and some others seem to depend almost for their strongest features on the colour or discoloration of the flesh. This is the most redeeming feature in *R. Du Portii*. It seems to be characteristic of *R. Barlaæ*, and also

of a species as yet undescribed, but which we call provisionally *R. ochroviridis*. Whether it takes a positive and definite form in *R. vesca* is not yet determined. It is not so liable to mutation, according to a wet or dry season, as taste or odour, and hence, all things considered, is more reliable.

The colour of the flesh under the cuticle appears to have the confidence of some mycologists who have little or no faith in the external coloration of *Agaricini* at all. This seems rather anomalous, but it may be true. It is generally considered a good test of *R. emetica*, *R. consobrina*, *R. cyanoxantha*, and perhaps to a certain extent of *R. furcata*, as well as *R. cutefracta*. This subcuticular colour is not always the same as that of the cuticle, and then perhaps even more to be trusted, as in *R. cutefracta*, *R. furcata*, and *R. rhytipes*.

Considerable emphasis is often placed upon a separable or adnate cuticle, but we doubt much if this is not relative rather than absolute, and very much fluctuates with a wet or dry season. True, the cuticle may always be raised with much greater facility in some species than in others, and always most freely at the margin. Here is a little work still left for the microscope to determine whether there is in all cases a distinct outer layer of cuticular cells, or whether they are represented in the adnate pellicle by a cell structure continuous with the subcuticular cells. If the distinct cuticular cells are in all cases a superimposed layer, parting away with more or less facility, then the reliance to be placed upon a separable pellicle must be very small, fluctuating according to external circumstances.

Relative again, and not absolute, must be regarded the viscosity of the pellicle. Granted that in some instances it is most decided under any, and almost every, condition of humidity, as we presume it must be in *Russula cruentata*, Quel., where it is said to resemble *Hygrophorus limacinus*, but this is an extreme case. In damp situations, and persistently wet weather, it can be imagined that the cuticle of the species in the section *Rigidæ* will any of them exhibit fragments of grass and leaves adhering to them with some tenacity, as if they had experienced their soft moments. A distinguished and esteemed Woolhopeian not infrequently has been known to experiment on the conversion of a dry cuticle to a viscid one, by damping and pressing fragments of grass thereon, as a trap to catch the unwary. Nevertheless, for all this, the section *Rigidæ* is a good one, and, comparatively, the cuticle is dry, but not absolutely so, especially when young, that persistently damp weather has no influence upon them. Even that most characteristic, and characteristically dry, species *Russula virescens* may be gathered with fragments of grass closely agglutinated to the pileus, and yet the wood nymphs carry no fairy gum pot, for the delusion of corporeal fungus hunters.

*Apropos* of the cuticle, a curious phenomenon may be observed in two or three species—and we have observed it only in two or

three—in which the cuticle of the pileus is continued for some distance from the margin along the edge of the gills in a coloured line. This may often be seen in *Russula lepida*, especially when the cuticle remains red or pink. This fact is alluded to by Fries ("Mon.," p. 191), where he says:—"Acie vero, præcipue marginem versus, sæpe rubræ ob marginem pilei cum lamellis contiguum, ut etiam in sequente"—that is in *Russula rubra*. Not only in these two species, but also in another, which we have called *R. granulosa*, an ochraceous species, the darker line is continuous from the margin of the pileus along the edge of the gills, for a considerable distance, like a coloured edge. As a sort of collateral evidence this fact may sometimes be useful in determination.

The final reference we have to make to the cuticle is to remind you that the tomentose cuticle is a rarity almost unknown in *Russula*. We have the viscid and comparatively dry cuticle, opaque or shining, bright or dull, but not the really tomentose pileus. There is a near approach to it in *R. punctata*, Gillet, at times, but a kind of pulverulence is the closest approach we commonly obtain to a tomentose cuticle. *Russula amœna*, Quelet, is affirmed to have a pulverulent pileus; and so pulverulent is that of *R. mariæ*, Peck, a North American species, that the red powder comes off on paper, or may be washed into water, to which latter it gives a pink tinge. On the other hand we have a variation from the absolutely smooth pileus, in those species in which the cuticle breaks up into small areolæ, or even into minute adherent granules. The best examples are those of *R. virescens*, *R. cutefracta*, *R. xerampelina*, *R. punctata*, and *R. granulosa*. It may be added that we regard this character as a very strong and useful one, and, for aught we know or believe, constant.

This brings our "Notes and Queries" almost to a close. Any comparison of species, or critical observations on the limits of species, or the direction of their variability, must be postponed to some period when figures of all the British species can be turned to in illustration. As this time is, we hope, not many months distant, the subject may soon be resumed. It will be well worthy of the labour if we can succeed in rendering the *Russulæ* more intelligible, and this we shall still endeavour to accomplish. The number of available characters is greatly reduced in this genus, and we are compelled to fall back on minute distinctions which are little regarded in other groups, but by making good use of our eyes, it may be possible to initiate an improvement.

Our final note must relate to the general classification of the genus. Admitting something like 100 species into the fraternity, it is evident that an order of grouping must be adopted for facility of reference and determination. Fries attempted this by the recognition of five tribes, and no one has yet ventured to supersede them. Take them for all in all, we do not think, with our present knowledge, that any better can be offered; at any rate, no better arrangement has been proposed. The *Compactæ* is the first, and



at the same time the most perfect of the five groups or tribes. This requires no comment. The second, or *Furcata*, seems at certain points to melt into the fourth, or *Heterophylla*. It requires considerable care sometimes to put them in practice. The third, or *Rigida*, should be, and we think is, a natural and satisfactory tribe, although not a large one. Whilst the last, or *Fragiles*, if strictly maintained within the limits of the diagnosis, is a good workable tribe, although we fail to see a good reason for two groups of the yellow-spored forms when one group would answer the purpose. The same division of yellow-spored from white-spored species would be advisable in all the other tribes. A further subdivision of each section, according to some prominent feature, so as to reduce the size of each final group to some six or ten species, would probably be the most complete classification, and the most workable one that could be proposed. This is the only direction in which we imagine that any reform in the classification could be taken.

Some there are who have been rash enough to suggest the amalgamation of *Lactarius* and *Russula* in one large genus. These enthusiasts could hardly be practical men, or they would know that in proportion as you *diminish*, and not *increase* the size of the genus—all other conditions being equal—so do you facilitate its comprehension, and render it more practically applicable.—*Requiescat in pace.*

---

## NEW BRITISH FUNGI.

By M. C. COOKE.

(Continued from p. 3.)

**Agaricus (Omphalia) chrysophyllus**, *Fr. Hym. Eur.* 156.

Pileus submembranaceous, umbilicate, flaccid, flocculose, dusky yellow, when dry hoary tan-colour, margin reflexed, stem hollow, equal, smooth, yellow, gills very decurrent, distant, bright golden egg-colour.—*Fr. Icon. t.* 74, *f.* 1.

On wood. Rothiemurchas (Rev. Dr. Keith).

Pileus about  $1\frac{1}{2}$  in. diam.

**Agaricus (Naucoria) subglobosus**, *Alb. & Schw. Sacc. Syll.* 3406.

Pileus rather fleshy, hemispherical, even, rather viscid, yellowish (about 2 cm. broad), stem thin, becoming hollow, equal, short ( $1\frac{1}{2}$  in. long), longitudinally striate; gills very broad, nearly free, rhomboidal, convex, ochraceous flesh-colour. Spores spheroidal ( $9 \times 7 \mu$ ), pale salmon-colour.

On the ground. Woodman's Glade, Epping.

This seems to be the true species of *Alb. & Schw.*, but the spores can scarcely belong to *Dermini*, but rather to *Hyporrhodii*. North American specimens determined by Berkeley (when dried)

have ferruginous gills and spores, and must belong to a different species. It would be better to retain this as *A. (Nolanea) subglobosus*, Alb. & Schw., accepting the North American species as *A. (Naucoria) subglobosus*, Berk. Fries had never seen Alb. & Schw. species.

**Agaricus (Hypholoma) felinus**, *Pass. F. Parm. (nec. Pers.)*.

Pileus fleshy-membranaceous, hemispherical then expanded, smooth, hygrophanous; stem fistulose, short, thin, *rather shining*, white, *incrassated at the base*, and white floccose, striate at the apex; gills adnate, white, then fuscous. *A. catarius*—*Fr. Hym. Eur.* p. 296.

On the ground amongst grass. Kew Gardens, and Forest of Dean.

Gregarious, subcæspitose, ochraceous, pileus scarcely 1 in. diam. Stem about  $1\frac{1}{2}$  in. long; spores  $6 \times 3 \mu$ .

**Lactarius aspidæus**, *Fr. Hym. Eur.* 424.

Pileus fleshy, convex *gibbous*, then depressed, viscid, without zones, straw colour, girt with a distinct deciduous *tomentose white marginal band*, afterwards quite smooth; gills rather thick, pallid; milk white, then lilac.

In swampy places. Harewood, near Leeds (G. M.).

Pileus 2-4 in. diam. Stem 2-3 in. long,  $\frac{1}{2}$  in. thick. Spores subglobose, 8-10  $\mu$ .

**Lactarius utilis**, *Weinm. Russ. p.* 43.

Pileus convexo-plane, at length funnel shaped, even, smooth, tan colour; stem hollow, even, of the same colour; gills adnate, crowded, pallid; milk white, mild, then slightly acrid.—*Fr. Hym. Eur.* 425.

On the ground. Warwickshire (J. E. B.).

Pileus 5-8 in. diam. Stem 2-3 in. long, 1 in. thick. Gills 4-5 lines broad. Spores 8-10  $\mu$ , almost smooth.

In the specimen found for the first time in Britain the pileus was pale, and rather a dirty ochre, the stem darker, and longitudinally striate, but otherwise in accord with the description.

**Lactarius (Russularia) aurantiacus**, *Fl. Dan. t.* 1909.

Pileus fleshy, plane, then depressed, even (1-2 in. diam.), without zones, *orange*. Stem stuffed (3 in. long,  $\frac{1}{2}$  in. thick), smooth, same colour as the pileus; *gills decurrent*, crowded, from yellowish to ochraceous. Milk white, slowly acrid. Flesh pallid.

On the ground. Fairmead, Epping Forest.

Resembling *L. mitissimis* in colour, but rather brighter and more orange, besides being acrid.

**Russula (Rigidæ) atropurpureus**, *Krombh. t.* 64, *f.* 5-6.

Large, fleshy, plane, then depressed, dark purple, shining, dry or rather viscid in wet weather, margin quite entire, even; stem straight, solid, stuffed, white, somewhat cylindrical; gills fleshy, often furcate, broad, white, entire. Flesh white, firm, taste mild.

Amongst grass. Epping Forest, and near Hereford.

Referred by Fries to *Russula emetica*, but the persistently mild taste and other points separate it from that species. Pileus 3-4 in. diam., with the appearance of our usual form of *R. rubra*, with which it is easily confounded. It is somewhat doubtful whether it can be regarded as other than a mild variety of that species.

***Russula (Furcata) ochroviridis*, Cooke.**

Pileus fleshy, flattened then depressed (4 in. or more), at first viscid, polished when dry, with a thin adnate pellicle, ochraceous towards the margin, disc olivaceous or fuliginous; margin spreading, even, acute; stem short, thick, 2 in. long, 1 in. thick, reticulately rugulose, white, rarely growing pallid, flesh fuliginous when cut, stuffed, spongy within; gills attenuated both ways, lanceolate (6 mm. broad in the centre), crowded, many furcate, white, becoming a little dirty white when old. Spores white, subglobose ( $9 \times 7 \mu$ ), faintly granular. Taste mild.

On the ground. Kew, Arboretum, July, 1888.

Resembles *R. ochroleuca* in the rugose stem, but differs in not becoming cinereous, in the dark, dingy olive centre of the pileus, narrow gills, discoloration of the flesh, and the mild taste. In habit it resembles *R. furcata*, but differs in the paler greenish ochre pileus, narrower gills, rugose stem, and discoloured flesh. Differs from *R. aeruginea* in the margin not being striate, in the stem being short and not smooth, and in the gills being crowded.

***Russula (Furcata) maculata*, Quel. Soc. Bot. Fr., 1877, t. 5, f. 8. Sacc. Syll. 1804.**

Pileus solid, convex, then plane, viscid, reddish flesh-colour, then pallid, then decoloured, spotted with purple or brown, margin undulate, and often darker (3 in. diam.), flesh white, peppery, reminding one of the odour of rose; stem short, solid, reticulated striate, white or somewhat rosy, then spotted with ochre. Gills attenuate behind, adnate, bifurcate, pallid sulphur, then somewhat peach-colour. Spores  $10 \mu$  diam.

In woods. Epping Forest.

Somewhat like *R. depallens*, but peppery, and without a grey stem, but with yellow gills.

***Russula (Fragiles) granulosa*, Cooke.**

Acrid. Pileus convex, plane, then depressed or infundibuliform (2-3 in. diam.), at first viscid, ochraceous yellow, disc darker, breaking up into minute granules, margin even or faintly striate when old. Stem 2-3 in. long,  $\frac{1}{2}$ -1 in. thick), minutely granular or mealy throughout, granules snow-white at the apex, fuscous below, internally white, spongy; gills rather crowded, somewhat attenuated behind, nearly free, equal, rarely furcate, white; spores rough, subglobose,  $12 \mu$  diam., apiculate, white.

On the ground, under trees. Arboretum, Kew.

Habit nearly that of *R. ochroleuca*, which it also resembles in colour, but differing in the darker and minutely granular disc as well as the mealy stem, which is not at all grey; the cuticle of the pileus is continuous at the margin for some distance along the edge

of the gills. Altogether distinct from all the ochraceous species, in many points agreeing with the section *Rigidæ*, but decidedly viscid when moist, possibly only a variety of *R. ochroleuca*.

**Russula (Fragiles) puellaris**, *Fr. Hym. Eur.* 452.

Pileus, except the disc, *membranaceous*, conically convex, then flattened or depressed, striate to the margin and tuberculose (1-1½ in. diam.), livid purplish, becoming yellowish, *disc brown*, always darker, stem soon hollow (1-1½ in. long), white, becoming yellowish; gills attenuated behind, adnate, thin, crowded, *naked*, white, then pallid yellow.

On waysides, in woods, etc. Morpeth (C. H. Sp. Perceval, Esq.).

**var. intensior.** Pileus darker, nearly the same size, deep purple, nearly black at the disc, stem and gills as above.

In the same places.

The stem has a tendency to become thickened at the base, and turns yellowish where touched.

**Russula (Fragiles) roseipes**, *Secr. Myc. No.* 483.

Pileus fleshy, margin thin, convex, then flattened and depressed, viscid, soon dry, rosy flesh colour, rosy orange, or rosy with a tinge of ochre, at first spotted with whitish, at length blanché, margin shortly tuberculate, striate (2-3 in. diam.), gills rather crowded, equal, some dimidiate or furcate, furcate behind and rounded, free, rather distant, sometimes with an adnate tooth, ventricose, whitish, then ochraceous egg-yellow, connected by veins; stem stuffed, lacunose, white, here and there sprinkled with a rosy meal (2 in. long, 8-15 mm. thick), flesh whitish, then rather yellowish, taste and odour pleasant, spores globose, echinulate, ochraceous, 8-10  $\mu$ .

In woods. Morpeth (C. H. S. Perceval, Esq.).

**Russula (Fragiles) pulchralis**, *Britz. Sudb. Russ. f.* 13.

Pileus viscid, thin, convex, then flattened and depressed (2 in. diam.), circumference ochraceous, centre spotted with red or purple, margin thin, deeply striate and often split. Stem equal, ventricose, or thickened at the base, fragile, white; gills broad, distant, rather thick, whitish, then ochraceous yellow. Spores nearly globose, 9  $\times$  8  $\mu$ .

In woods. Near Bristol (C. Bucknall).

It is dangerous to attempt an identification of Britzelmayer's species from his imperfect descriptions and crude figures, but in this instance it appears to be correct, although Saccardo places this species (No. 1,813) in the section *Rigidæ*, whereas it evidently belongs to *Fragiles*, according to the evidence afforded by the figure and description, near to *R. nitida*.

**Scolecotrichum uniseptatum** (*B. & C.*) = *Cladotrichum*, *Sacc. Syll. No.* 1,797.

Threads dark brown, thin, simple, or rarely shortly branched, not swollen at the joints, septate; conidia oblong, uniseptate, slightly constricted, rounded at the ends, brown, 10  $\times$  5  $\mu$ .

On dead wood. Epping Forest.

**Macrosporium Camelliae**, C. & Mass.

Epiphyllous. Spots orbicular or confluent, pallid, with a broad brown margin (1 cm. or more diam.), threads tufted, septate (30-40  $\mu$  long), simple, pale olive. Conidia clavate, three septate, then multiseptate and muriform (50-60  $\times$  15-25  $\mu$ ), attenuated below into a slender pedicel, 30-50  $\mu$  long, pale olive.

On living leaves of *Camellia japonica*. Kew.

**Tubercularia subpedicellata**, Schw. Sacc. Syll. 3,038.

On *Syringa vulgaris*. Kew.

Spores 6-7  $\times$  3-4  $\mu$ .

**Phoma brunneotincta**, B. & C., Sacc. Syll. 903.

Perithecia semi-immersed, gregarious on brownish or blackish spots, papillate,  $\frac{1}{2}$ -1 mm. diam., somewhat shining. Sporules straight or curved, hyaline, more or less rounded at the ends, sometimes nucleolate, 14-16  $\times$  3-4  $\mu$ , on rather stout sporophores, 35-40  $\mu$  long.

Inside husks of *Æsculus*. Kew.

## NEW EXOTIC FUNGI.

By M. C. COOKE.

(Continued from p. 16.)

**Dialonectria (Nectriella) gigaspora**, Cke. & Mass.

Gregaria vel sparsa. Peritheciis minutis, aurantiis, pyriformibus vel ellipticis, glabris; ostiolo conico. Ascis lanceolatis, 150  $\mu$  long, octosporis. Sporidiis elliptico-lanceolatis, continuis, granulosis, hyalinis, 30-33  $\times$  10  $\mu$ .

On *Botryosphaeria inflata*. Habgalla, Ceylon (542).

**Botryosphaeria inflata**, Cke. & Mass.

Peritheciis cortice interiore nidulantibus, demum rimoso-erumpentibus, papillatis, glabris, atris, contextu coriaceo; rimis arcte conniventibus, graphideis, flexuosis; ascis clavatis, octosporis. Sporidiis biserialibus, ellipticis, utrinque obtusis, medio inflatis, continuis, hyalinis, 33-35  $\times$  10  $\mu$ .

On bark. Habgalla, Ceylon (542).

**Dothidea (Coccoclea) globulosa**, Cke. & Mass.

Hypo-epiphylla, globosa, rugulosa, atra, opaca (1-1 $\frac{1}{2}$  mm. diam.), loculis periphericis, globosis, minimis; ostioliis obsoletis; ascis clavatis, octosporis, sporidiis inordinatis, oblongis, triseptatis, hyalinis, 25  $\times$  7  $\mu$ .

On leaves of *Tasmania aromatica*. Tasmania.

Externally resembling *D. coccodes*, Lev., but different in fruit; analogous to *Bagnisiella*, with triseptate sporidia. According to authentic specimen Leveille's species is a *Dothidea*, with globose stroma, and peripheral cavities, or pseudo-perithecia, and by no means a species of *Physalospora* (Sacc. Syll. No. 1717).

**Trabutia eucalypti**, Cke. & Mass.

Epiphylla; stroma coriacea, suborbicularis (3 mm. diam.), convexo-rugulosa, atra, nitida, peritheciis in stromate innatis protuberantiis, ostiolo minuto pertusis. Ascis cylindrico-clavatis. Sporidiis elliptico-lanceolatis, continuis, hyalinis,  $30 \times 8-9 \mu$ .

On leaves of *Eucalyptus viminalis*,  $\beta$  *mannifera*. Tasmania.

**Glypeolum zeylanicum**, Cke & Mass.

Peritheciis sparsis, superficialibus, dimidiato-scutatis, atris, nitidis ( $\frac{1}{4}$  mm. diam.), macula nulla, vel macula brunnea indeterminata insidentibus. Ascis clavatis. Sporidiis ellipticis, uniseptatis, hyalinis,  $11 \times 3 \mu$ .

On coriaceous leaves. Ceylon.

**Micropeltis depressa**, Cke & Mass.

Epiphylla. Perithecio dimidiato, depresso, orbiculari, atro, opaco, centro poro pertuso, ambitu plano (circa  $\frac{1}{2}$  mm. diam.). Ascis clavatis, substipitatis. Sporidiis lanceolatis, triseptatis, hyalinis,  $35-38 \times 8-9 \mu$ .

On leaves of *Cola acuminata*. Fernando Po.

**Microcera pluriseptata**, Cke. & Mass.

Exigua, sparsa, pulvinata, aurantia, sessilis, conidiis bacillaribus, utrinque conico-attenuatis, rectis, vel leniter curvulis, ad 11-septatis, hyalinis,  $100-120 \times 10 \mu$ . Sporophoris filiformibus, ramosis.

On *Calocera glossoides* and on bark. Cordova, Mexico (Salle).

**Chaetomella furcata**, Cke. & Mass.

Peritheciis superficialibus, sparsis, subglobosis, astomis, nigris, undique setosis, pilis erectis, sursum bi-vel tri-dichotomis, fuscis; sporulis ovatis, vel subamygdaloideis, pallide fuscis,  $10-11 \times 8 \mu$ .

On coriaceous leaves. Sikkim.

---

**BRITISH DISCOMYCETES.**
*Notes and Additions, No. 1.*

By WILLIAM PHILLIPS, F.L.S.

I purpose in this and other contributions to these pages to deal with several species which were not included in the "Manual of British Discomycetes," either from oversight or from some doubt remaining on my mind as to the correct determination of specimens sent to me by correspondents. The evil of species making is one to be anxiously avoided; on the other hand it only adds to confusion when a plant is wrongly-referred to an already described species, and this is sometimes done when an immediate determination is called for. I shall seek the opportunity here of revising such work, as well as recording the occurrence of new species. The awakened interest in this group of fungi will bring to light many plants described by the older authors hitherto overlooked, and while confirming the words of the illustrious Fries that

"England has more numerous and remarkable Discomycetes than Sweden," will place this country on a par with most others in Europe.

Not the least difficult task of those who essay to determine species is that of deciding what their predecessors have done. The scattered sources of information, the scanty specimens in public herbaria, the inadequacy of descriptions—sufficient when the number of species were limited—and the absence of microscopic details, render it next to impossible to be quite sure what plants a given author had before him. To carefully weigh the evidence, and scrupulously compare details, are the only methods of avoiding the needless multiplication of species.

***Peziza leucomelas*, Pers.**

Solitary; cup white, stipitate; stem rather thick, interruptedly sulcate; hymenium cinereous approaching black; asci cylindrical; sporidia 8, broadly elliptic, 1-guttulate, smooth,  $20 \times 13 \mu$ ; paraphysis filiform, clavate at the apices.

*Peziza leucomela*, Pers. Myc. Eur., p. 219; *Peziza macropus*, Sturm Fl. (in part), No. 31, t. 20, f. d.; *Peziza sulcata*, Fekl. Symb., p. 330.

Exs. Fekl. Fung. Rh., No. 2,085.

On rocky clay bank. Feby.

The cups are 1 to  $1\frac{1}{2}$  inches broad, and the same high. It may easily be confounded with *P. acetabulum*, Linn., if regard be not had to the cinereous disc.

Ashton Court, Clifton. Mr. Cedric Bucknall.

***Peziza ancilis*, Pers.**

Substipitate, from the fleshy base of the cup being protracted downwards, fragile; externally white, thick branching veins below; hymenium at first concave, becoming nearly plane, and wrinkled, greyish brown or purplish brown; asci cylindrical, narrowed below; sporidia 8, broadly fusiform, with an apiculus at each end, 3-guttulate, brownish,  $25-29 \times 10-12 \mu$ ; paraphyses stout, a little enlarged at the brownish summits, indistinctly septate.

*Peziza ancilis*, Pers. Myc. Eur. 219; Fries Sys. Myc., ii., 42; Cooke Mycog., 371, neither 229 nor 372 Rehm.; *Peziza venosa*, Weberb. Pilz., t. ii., fig. 1.

On wet soil where fir-wood had stood. May, 1888.

Cups 2 to 3 inches broad, 1 to  $1\frac{1}{2}$  inch high. Our specimens were 1 to  $1\frac{1}{4}$  inches broad, and  $\frac{3}{8}$  of an inch high. The remarkable sporidia distinguish this from its British allies.

I am indebted to Prof. James W. H. Trail for specimens of this most interesting species.

Dyce, near Aberdeen, N.B.

***Peziza umbrina*, Boud.**

Cæspitose, sessile, large, at first hemispherical then expanded, margin persistently incurved, externally pruinose or granulose,

pale brown; hymenium umber-brown; asci cylindrical, narrowed near the base; sporidia 8, elliptic, asperate, hyaline ( $18-20 \times 9 \mu$ , Cooke),  $13-15 \times 7 \mu$ ; paraphyses filiform, a little enlarged at the summits.

*Peziza umbrina*, Boud. (not Persoon), in Cooke's Myco., fig. 378.

On charred wood. Sept.

Cups 2 to 3 inches broad. The exterior in the specimens from Scotland were granulose rather than pruinose, and the sporidia were somewhat smaller than Dr. Cooke's measurements, but I have no doubt it is Boudier's species.

Aviemore, N.B. Rev. Dr. Keith. Sept., 1888.

***Hymenoscypha uliginosa*, Fries.**

Scattered or gregarious, stipitate or sessile, watery, waxy, firm; cup somewhat concave, or slightly convex, pallid white, or from yellow to ochrey, when dry dark testaceous, or sub-ferruginous, frequently flexuous and umbilicate; stem becoming livid-pallid, or pallid, hollow; asci cylindraceo-clavate; sporidia 8, oblong-elliptic, often provided with two minute apical guttula,  $7-14 \times 3-4 \mu$ ; paraphyses filiform, stout, slightly enlarged above.

*Peziza uliginosa*, Fr. Sys. Myc., ii., p. 138; Karst. Pez. & Ascob., p. 35, and Monogr. Pez., p. 149; Nyl. Obs., p. 48; *Helotium uliginosum*, Karst. Myco. Fenn., p. 121.

Exs. Karst. Fung. Fenn., 639.

On branches of willow (*Betulus*) in damp places. Nov.

The cups 1 to 2 lines broad, stem half a line to 4 lines high. Mr. Grove's specimens were not so large as Karsten's, from whom the above description is mainly copied. Asci  $65-90 \times 6-8 \mu$ .

Olton. Mr. W. B. Grove.

***Mollisia (Pseudopeziza) Alismatis*, Phil & Trail, Grevillea, xvi. p. 93.**

It is probable that this is the same plant as *Peziza Alismatis*, Pers. Myco. Eur., p. 301 = *Patellaria Alismatis*, Fr. Sys. Myc., ii., p. 161; but of this I am uncertain. In any case it is more properly placed in the sub-genus *Pseudopeziza* of *Mollisia*.

***Lachnea umbrata*, Fr. var. *pallida*, Rehm.**

This differs in colour from the type, being pale tan colour.

*Humaria umbrata* (Fr.), var. *pallida*, Rehm. Asco., No. 456; Conf. Cooke in Grevillea, vii., p. 57.

On the earth in damp places. May.

Terrington, St. Clement's, Norfolk. Mr. G. Herbert Ward.

***Dermatea Pseudoplatani*, n. s.**

Cæspitose, erumpent, sessile or substipitate; hymenium at first convex, then a little depressed, hoary-white, becoming at times pale yellowish brown; asci broadly clavate; sporidia 8, biseriata,



oblong, or oblong-elliptic, with 3 guttulæ, at length 3-septate,  $15-17 \times 5-7 \mu$ ; paraphyses clavate at the summits.

On bark of *Acer Pseudoplatanus*. October.

The cups are  $\frac{1}{4}$  to  $\frac{1}{2}$  a line broad, rarely single, erumpent, and remarkable from their hoary-whiteness. Nearer *D. livida* (B. & Br.) than any other species. It is not *Nodularia acericola* (Peck.), which is also a *Dermatea*, and which has much larger sporidia.

I am indebted to Mr. W. B. Grove, of Birmingham, for this interesting species.

Spark Hill. W. B. Grove, No. 505.

**Patellaria Crataegi**, n. s.

Solitary or cæspitose, erumpent, hemispherical, then patellate, the prominent margin and exterior brownish-black, whitish within; hymenium black; asci cylindrical, narrowed at the base; sporidia 8, large, narrowly clavate, often ventricose in the centre, faintly coloured, having numerous guttulæ,  $30-60 \times 5-6$  in the broadest part; paraphyses adherent, filiform, clavate, brown, and septate at the apices.

On twigs of *Crataegus*. Jany.

Cups  $\frac{1}{4}$  to  $\frac{1}{2}$  a line broad; asci  $140-160 \times 10$ . The cups break through the bark singly or in cæspitose clusters of three to five, suggesting *Tympanis*. It is near *Patellaria bacilligera*, Karst.

Corbie Den, Scotland. Professor James W. H. Trail.

**Phacidium clematidis**, n. s.

Scattered or gregarious, erumpent, orbicular, minute, splitting the epidermis into unequal laciniae; hymenium pallid-brown; asci clavate or clavate-fusiform; sporidia 8, linear-acute, 5-6 guttulate, straight,  $35 \times 4 \mu$ ; paraphyses slenderly filiform.

On dead branches of *Clematis*. Autumn.

The cups are  $\frac{1}{8}$  to  $\frac{1}{4}$  of a line broad; asci  $55-56 \times 10$ . The margin is cut into short, unequal laciniae, or sometimes only coarsely serrated.

Carlisle. Dr. Carlyle.

**Ascomyces aureus** (Pers.).

Forming in the living leaves concave depressions which are lined with the golden yellow hymenium; asci oblong-clavate, without stem-cells; sporidia innumerable, very minute, elliptic,  $4-6 \times 2\frac{3}{4}-3\frac{1}{2} \mu$ .

*Erineum aureum*, Pers. Syn., p. 700; *E. populinum*, Schum Enum., ii., p. 446; *Taphrina aurea*, Fr. Obs., i., p. 217; Robin. Ann. Bot., vi., p. 174; *Exoascus Populi*, Thumen. Hedwig, 1874, p. 98; *Exoascus aureus*, Sacc. Rabh. Krypt. Flora., vi., p. 3; *Ascomyces aureus*, Sacc. Mich., i., p. 62 and p. 516; Fung. Ital., fig. 1281; Karst. Act. Soc. F. & F. Fenn., ii., No. 6.

Exs. Kunz. Fung. Sel., 169 and 275; Rabh. Fung. Europ., 2350; Rehm. Asco., 273; Thumen Myco. Univ., 80 and 1461; Sacc. Myco. Ven., 1500.

On both sides of the leaves of *Populus nigra*. August.

Depressions 2-7 lines broad. Asci 92-105  $\times$  16-25  $\mu$ . Size of sporidia, given above, is after Saccardo.

Near Aberdeen. Professor James W. H. Trail.

## CRYPTOGAMIC LITERATURE.

SMITH, W. G. On Sowerby's Models of Fungi, in "Journ. Bot.," Aug., 1888.

FARLOW, W. G., and SEYMOUR, A. B. Provisional Host Index of the Fungi of the United States, part i. "Polypetalæ."

NEWCOMBE, F. C. Spore dissemination of *Equisetum*, in "Botanical Gazette," July, 1888.

RENAULD, F., and CARDOT, J. New Mosses of North America, in "Botanical Gazette," Aug., 1888.

WRIGHT, C. H. Mosses of Madagascar, in "Journ. Bot.," Sept., 1888.

SCRIBNER, F. L. Report of the Chief of the Section of Vegetable Pathology for 1887 (Department of Agriculture, U.S.A.)

CAVARA, F. Appunti di Patologia Vegetale—Milan.

PASSERINI, G. Diagnosi di Funghi nuovi—Rome.

KAURIN, C. On *Brachythecium Ryani*, in "Botaniska Notiser.," No. 4, 1888.

NORDSTEDT, O. Ueber einige Characeen, in "Hedwigia," Nos. 7, 8, 1888.

CRISP, F., and OTHERS. Summary of Cryptogamic Literature, in "Journ. Roy. Microscopical Society," Aug., Oct., 1888.

BAILEY, F. M. Synopsis of the Queensland Flora—Phanerogams and Cryptogams, 2nd supp.—Brisbane.

ROUMEGUERE, C. Fungi Gallici Exsiccati, Cents 47, 48.

HARIOT, P. Mission Scientifique du Cap Horn, Champignons.

SACCARDO, P. A. Sylloge Fungorum, Vol. vi. "Polyporeæ," etc.

ELLIS, J. B., and EVERHART, B. M. New species of Fungi in "Journ. Mycol.," Sept., Oct., 1888.

TRELEASE, W. "Description of *Lycoperdon Missouriense*," in "Contrib. Shaw School of Botany."

THUEMAN, F. V. Die Pilze des Aprikosenbaumes.

LUCAND, CAPT. Figures des Champignons de la France, Fasc. 10.

ELLIS, J. B., and EVERHART, B. M. Synopsis of N.A. Hypoxylon and Nummularia, in "Journ. Mycol.," Sept., 1888.

KELLERMAN, W. A., and SWINGLE, W. T. New species of Kansas Fungi, in "Journ. Mycol.," Sept., 1888.

NORDSTEDT, O. Fresh Water Algæ collected by Dr. Berggren in New Zealand and Australia, "Roy. Swed. Acad.," 1888.

NORDSTEDT, O. Desmidiæ fra Bornholm, in "Videns. Medd. Kjob.," 1888.

STABLER, G. On the Hepaticæ and Musci of Westmoreland, in "The Naturalist," Oct., Nov., 1888.

MULLER, DR. K. Die Mooswelt des Kilima-Ndschare's, in "Flora," 21 Sept., 1888.

MOBINS, DR. M. Süsswasser und luftalgen in Portorico, "Hedwigia," No. 9, 1888.

KARSTEN, P. A. Fragmenta Mycologica, xxiii. and xxiv., in "Hedwigia," No. 9, 1888.

RENAULD et CARDOT. Notice sur quelques mousses de l'Amerique du Nord, in "Revue Bryologique," No. 5, 1888.

DE TONI, G. B. Sopra un Nuovo genere di Trentepohliaceæ, in "Notarisia," Oct., 1888.

HANSGIRG, A. Synopsis generum Myxophycearum (Cyanophycearum), in "Notarisia," Oct., 1888.

LAGERHEIM, G. Sopra alcune Alghe d'acqua dolce nuove, in "Notarisia," Oct., 1888.

MULLER, DR. J. Lichenes Paraguensis, in "Revue Mycologique," Oct., 1888.

CAVARA, F. Champignons parasites nouveaux, in "Revue Mycologique," Oct., 1888.

COOKE, M. C. Illustrations of British Fungi, No. 65.

PATOUILLARD, N., and GAILLARD. Champignons de Venezuela, in "Société Mycol. de France." Bulletin, 1888.

ROLLAND, L. Trois nouvelles espèces de Discomycetes, in "Soc. Mycol. de France." Bulletin, 1888.

SACCARDO, P. A. Sylloge Fungorum, Vol. vii. part ii. Ustilagineæ et Uredineæ (J. B. de Toni).

MASSALONGO, C. Sulla germogliazione delle sporule nelle Sphæropsiæ, in "Nuovo Giorn. Bot. Ital.," Oct., 1888.

BERLESE, A. N. Sopra due parassiti della Vite in Italia, in "Nuovo Giorn. Bot. Ital.," Oct., 1888.

BORZI, A. *Eremothecium cymbalaria*, nuovo Ascomicete, in "Nuovo Giorn. Bot. Ital.," Oct., 1888.

BRAITHWAITE, DR. R. British Moss Flora, part xi., fam. x., "Grimmiaceæ," I.

COOKE, M. C. List of Discomycetes of Essex, in "Essex Naturalist," Sept., 1888.

WEST, W. The Desmids of Maine, in "Journ. Bot.," Nov., 1888.

FUNGUS Foray at Bramham and Harewood Parks, in "The Naturalist," Nov., 1888.

LAGERHEIM, G. Mykologiska Bidrag vi., in "Botaniska Notiser," No. 5, 1888.

BLUNT, T. P. Life History of a Myxomycete, in "Midland Naturalist," Nov., 1888.

# Grevillea,

A QUARTERLY RECORD OF CRYPTOGAMIC BOTANY  
AND ITS LITERATURE.

## SYNOPSIS PYRENOMYCETUM.

(Continued from p. 28.)

**Fam. 12. CERATOSTOMEÆ.** Perithecia plerumque immersa,  
vel quandoque subsuperficialia, rostrata.

**GEN. 1. CERATOSTOMELLA.** Perithecia subcarbonacea.  
*Sporidia hyalina.*

\* **CAMPTOSPHERIA.** *Sporidia pyriformia.*

3747. sulphurea, *Fckl.* ... 1566

\*\* **ROSTRATELLA.** *Sporidia subovoidea.*

3748. rostrata, *Fr.* ... 1546

3749. cirrhosa, *P.* ... 1547

3750. microcarpa, *Karst.* 6362

3751. leiocarpa, *S.* ... 1548

3752. ampullasca, *Cke.* ... 1549

3753. vestita, *S.* ... 1550

3754. De Baryana, *Auers.* 1551

3755. dubia, *S.* ... 1553

3756. stricta, *Pers.* ... 1555  
*var. majuscula, S.*

3757. trichina, *Moug.* ... 1556

3758. dispersa, *Karst.* ... 1557

3759. subpilosa, *Fckl.* ... 1558

3760. multirostrata, *Fckl.* 1559

3761. subsalsa, *Cr.* ... 1560

3762. sphærosperma, *Fckl.* 1561

3763. Stevensoni, *B. & Br.* 1562

3764. canulata, *Pr.* ... 1563

3765. leptorrhyncha, *Mont.* 1565

3766. hystericina, *Cke., Grev.*  
xi., 109

\*\* **LENTOMITA.** *Sporidia didyma.*

3767. longicollis, *Karst.* 6518

3768. brevicollis, *Nssl.* ... 2281

3769. cæspitosa, *Nssl.* ... 2282

3770. crassicollis, *Not.* ... 2283

3771. Schulzeri, *Pir.* ... 2284

3772. ligneola, *B. & Br.* 2285

3773. stylophora, *B. & Br.* 2286

3774. Auerswaldii, *Fleis.* 2287

\*\* **CERATOSPHERIA.** *Sporidia pluriseptata.*

3775. lampadophora, *B. & Br.* ... 3681

3776. crinigera, *Cke.* ... 3682

3777. pusilla, *Fckl.* ... 3683

3778. rostrata, *Kickx.* ... 3684

3779. fuscella, *Karst.* ... 3685

3780. cinerea, *Quelet* ... 3686

3781. rhenana, *Auers.* ... 1552

3782. subrostrata, *Karst. Exs.,*

859

\*\*\* OPHIOCERAS. *Sporidia filiformia, septata.*

3783. dolichostoma, <i>B. &amp; C.</i> ...	4107	3786. bacillata, <i>Cke.</i> ...	4111
3784. Friesii, <i>Mont.</i> ...	4108	3787. macrocarpa, <i>Sacc.</i> ...	4110
3785. hystrix, <i>Ces.</i> ...	4109	3788. longispora, <i>Ell.</i> ...	4112
		3789. Therryana, <i>S. &amp; P.</i> ...	4113

\*\*\* RHAMPHORIA. *Sporidia muriformia.*

3790. delicatula, <i>Nsl.</i> ...	3933.
-----------------------------------	-------

GEN. 2. **CERATOSTOMA**, *Fr.* Perithecia subcarbonacea.  
*Sporidia colorata.*

\* EU-CERATOSTOMA. *Sporidia continua.*

3791. Notarisii, <i>Sacc.</i> ...	771	3801. melanosporoides, <i>Wint.</i> ...	6297
3792. querceticolum, <i>Cr.</i> ...	772	3802. Therryanum, <i>R. &amp; S.</i> ...	782
3793. caminatum, <i>C. &amp; E.</i> ...	773	3803. culmicolum, <i>Sacc.</i> ...	783
3794. avocetta, <i>C. &amp; E.</i> ...	774	3804. vitis, <i>Fckl.</i> ...	784
3795. brevirostre, <i>Fr.</i> ...	775	3805. barbirostris, <i>Duf.</i> ...	1554
3796. australe, <i>Op.</i> ...	776	3806. nyssæcola, <i>B. &amp; C.</i> ...	1564
3797. rubefaciens, <i>Pk.</i> ...	777	3807. carpophilum, <i>Ell.</i> ...	5914
3798. jani-collinum, <i>S. &amp; S.</i> ...	778	3808. subulatum, <i>Ell.</i> ...	5915
3799. graphioides, <i>S.</i> ...	779	3809. penicillus, <i>Quelet</i> ...	5916
3800. caulincolum, <i>Fckl.</i> ...	780	3810. ?foliicolum, <i>Fckl.</i> ...	6298

\*\* *Species incertæ.*

3811. fallax, <i>Cke. &amp; S.</i> ...	785	3815. hæmatorhynchum, <i>Sow.</i> ...	789
3812. piliferum, <i>Fr.</i> ...	786	3816. cuspidatum, <i>Fr.</i> ...	790
= <i>dryina</i> , <i>Pers.</i> ...		3817. stilbum, <i>Schum.</i> ...	791
3813. procumbens, <i>Fckl.</i> ...	787	3818. spina, <i>Schw.</i> ...	792
3814. mucronatum, <i>S.</i> ...	788	3819. drupivora, <i>Schwz.</i> ...	4342

\*\* MICROASCUS. *Sporidia continua muco involuta.*

3820. longirostris, <i>Zuk.</i> ...	6299.
-------------------------------------	-------

\*\* RHYNOSTOMA. *Sporidia didyma.*

3821. cornigera, <i>Karst.</i> ...	2764	3826. altipeta, <i>Peck.</i> ...	2769
3822. minuta, <i>Karst.</i> ...	2765	3827. badia, <i>Pr.</i> ...	2770
3823. exasperans, <i>Karst.</i> ...	2766	3828. conica, <i>Lev.</i> ...	2716
3824. Julii, <i>Fab.</i> ...	2767	3829. tinctum, <i>Ell. &amp; Ev.</i> ...	6620
3825. pachyceras, <i>D. R. &amp; M.</i> ...	2768	3830. Beccarianum, <i>Pass.</i> ...	7474

\*\*\* RHYNOSPHÆRIA. *Sporidia triseptata.*

3831. *acuta*, Sacc. ... 3276    3834. *Cesatiana*, Sacc. ... 3279  
 3832. *ceratophora*, S. & S. 3277    = *Beccariana*, Ces.  
 3833. *longicollis*, Sacc. ... 3278

\*\*\* CERATOSPHÆRIA. *Sporidia pleuriseptata.*

3835. *æruginea*, Rehm. 3688    3837. *mycophila*, Wint. 7057  
 3836. *Sarawacensis*, Ces. 3689    3838. *irpex*, B. & Br. ... 3384

GEN. 3. **GNOMONIA.** *Perithecia submembranacea, subcutaneo erumpentia; ostiolo rostellata; sporidia hyalina.*

\* GNOMONIELLA. *Sporidia continua.*

3839. *tubiformis*, Tode ... 1567    3851. *rosæ*, Fckl. ... 1579  
 3840. *amæna*, Nees ... 1568    3852. *pruni*, Fckl. ... 1580  
       *var. petiolorum*, Schw.    3853. *perfidiosa*, Karst. ... 1581  
 3841. *avellanæ*, Sch. ... 1569    3854. *angelica*, Fckl. ... 1582  
 3842. *spilota*, Lev. ... 1570    3855. *devexa*, Desm. ... 1583  
 3843. *emarginata*, Fckl. 1571    3856. *curvicolla*, Peck. ... 1584  
 3844. *mirabilis*, Peck. ... 1572    3857. *excentrica*, Cke. &  
       *nervisequia*, Wall. 1573           *Pk.* ... 1585  
 3846. *fasciculata*, Fckl. ... 1574    3858. *amygdalina*, Fckl. 1586  
 3847. *lugubris*, Karst. ... 1575    3859. *euphorbiæ*, Fckl. ... 1587  
 3848. *comari*, Karst. ... 1576    3860. *idæicola*, Karst. ... 1588  
 3849. *circinata*, Fckl. ... 1577    3861. *vagans*, Johan. ... 6363  
 3850. *vulgaris*, Ces. ... 1578

\*\* MAMIANA. *Peritheciis stromaticis.*

3862. *fimbriata*, Pers. ... 1589    3863. *coryli*, Batsch. ... 1590

\*\* OPHIOGNOMONIA. *Sporidia bacillaria.*

3864. *melanostyla*, D.C. 1591

\*\* EUGNOMONIA. *Sporidia uniseptata.*† *Sporidia ovoidea v. oblonga.*

3865. *Epilobii*, Fckl. ... 2196    3873. *myricæ*, C. & E. ... 2202  
 3866. *fenestrans*, Duby. ... 2197    3874. *sesleriæ*, Not. ... 2203  
 3867. *depressula*, Karst. 2198    3875. *clavulata*, Ell. ... 6083  
 3868. *tetraspora*, Wint. ... 2199    3876. *australis*, Winter. ... 6492  
 3869. *euphorbiacea*, S. & B. 6489    3877. *petiophila*, Peck. 6491  
 3870. *rhododendri*, Rehm. 2200    3878. *magnoliæ*, Ellis, Amer.  
 3871. *tithymalina*, S. & B. 6490           *Nat.*, 1883, p. 318.  
 3872. *unæqualis*, Auers. 2201

†† CLOSTERIGNOMONIA. *Sporidia fusoides*.

3879. setacea, <i>Pers.</i> ... 2204	3892. alni, <i>Plow.</i> ... 2217
3880. ischnostyla, <i>Desm.</i> 2205	3893. alniella, <i>Karst.</i> ... 2218
3881. inclinata, <i>Desm.</i> ... 2206	3894. campylostyla, <i>Auers.</i> 2219
3882. setiformis, <i>Pers.</i> ... 2207	3895. leptostyla, <i>Fr.</i> ... 2220
3883. veneta, <i>Speg.</i> ... 2208	3896. errabunda, <i>Desm.</i> ... 2221
3884. amæna, <i>Auers.</i> ... 2209	3897. petiolicola, <i>Fckl.</i> ... 2222
3885. ostryæ, <i>Not.</i> ... 2210	3898. dryadis, <i>Auers.</i> ... 2223
3886. Arnstadtensis, <i>Auers.</i> ... 2211	3899. cerastis, <i>Reis.</i> ... 2224
3887. suspecta, <i>Fckl.</i> ... 2212	3900. graphis, <i>Fckl.</i> ... 2225
3888. lirelliformis, <i>Pass.</i> 2213	3901. pleurostyla, <i>Auers.</i> 2226
3889. erythrostoma, <i>Pers.</i> 2214	3902. sassafras, <i>Ell. &amp; Ev.</i> 6493
3890. Linneæ, <i>Auers.</i> ... 2215	3903. perversa, <i>Rehm.</i> ... 6494
3891. Fleischhakii, <i>Auers.</i> 2216	3904. gei, <i>Pat. &amp; Doas.</i> 7460

## \*\*\* Species dubiæ.

3905. acicularis, <i>Wallr.</i> 2227	3910. ariæ, <i>Fckl. F. Rhen.</i> 877
3906. curvirostra, <i>Sow.</i> ... 2228	3911. obliqua, <i>Auers. Pyr. f.</i> 126
3907. grossulariæ, <i>Fr.</i> ... 2229	3912. pungens, <i>Wallr. Comp. II.</i> 803
3908. ulmea, <i>Schw.</i> ... 2230	3913. curva, <i>Wallr. in Karst. Exs.</i> 349
3909. pruína, <i>Schw.</i> ... 4473	

\*\*\* CRYPTODERIS. *Sporidia triseptata*.

## † Ostiolum sublaterale.

3914. lamprotheca, <i>Desm.</i> 3690
--------------------------------------

## †† Ostiolum subcentrale.

3915. Chamæmori, <i>Fr.</i> ... 3691	3917. misella, <i>Nsl.</i> ... 3693
3916. riparia, <i>Nsl.</i> ... 3692	

## FUNGUS FORAYS, 1888.

HACKNEY NATURAL HISTORY SOCIETY, SATURDAY, SEPT. 8TH.—The Annual Foray was held as usual in Epping Forest, and although the attendance was small the weather was propitious, and the number of species met with considerably larger than for some years past. The cold summer was, doubtless, adverse to the prolific growth of fungi, yet, for some unaccountable reason, this excursion proved to be eminently successful, as far as species were concerned, although the individuals in each species were comparatively few. The Hawkwood and Burywood side of the Forest did not answer expectations at the beginning of the day, but after-

wards there was no reasonable ground of complaint. It is customary at these Excursions to keep a list of all the species met with and determined throughout the day, which, on previous occasions, have ranged from 60 or 80 to 100. On the present occasion the total attained was 144, of which 20 were new to the records of the Forest, and four of these occurred for the first time in Britain. Of the latter were *Agaricus (Naucoria) subglobosus*, A. & S., which appears to be rather a *Nolanea* than a *Naucoria*, from the colour and character of the spores; *Russula maculata*, Quelet, although it hardly seems to be a good and distinct species; *Lactarius aurantiacus*, Fr., and *Scolecotrichum uniseptatum*, B. & C. In addition to these *Russula armeniaca*, Cooke, which was first observed in the Forest nearly a month previously, and *Russula* (sub species) *granulosa*, Cooke, were again collected. The usual tea at Fairmead Lodge, an exhibition and examination of the specimens collected, with some explanatory observations by M. C. Cooke, concluded the day.

WOOLHOPE FIELD CLUB, OCT. 2 TO OCT. 5, 1888.—On this occasion, following the example of last year, two days were spent in the Forest of Dean, with the Speche House, Coleford, as a centre. Whatever the cause, the anticipations raised by the success of the Hackney Foray in Epping Forest were disappointed, as may be seen from the account in "Gardener's Chronicle" for October 27. As for the fungi, they were few and far between, the oldest excursionist venturing the opinion that it was the worst prospect of a Fungus Foray which the Woolhope Club ever experienced, and this prognostic was ultimately verified. Thursday, being the "Club day," was devoted to a little excursion in the woods and lawns of Holm Lacey, where the bracken flourished in luxurious profusion, but fungi were more scarce than in the Forest of Dean. In the evening, after the inevitable dinner, the usual conversazione at the residence of Mr. Cam was crowded, when two or three papers were read—"On Dr. Bull's Birds of Herefordshire," by H. T. Wharton, M.A., F.Z.S.; "On Spiders," by the Rev. J. E. Vize, M.A.; and "Notes and Queries on *Russulæ*," by M. C. Cooke (the latter printed in the previous number). The final excursion to Pontrilas, on October 5, was characterized chiefly by the genial hospitality of the host and hostess for the day, but the baskets remained nearly empty, and not a specimen of any special interest or rarity could be found. "The social aspect of the week was a pleasant reminiscence, but the scientific phase undoubtedly a deplorable failure."

VESSEY CLUB, SUTTON COLDFIELD, SATURDAY, OCT. 6.—The first Foray of this Club in Sutton Park did not exceed two hours, but a number of specimens, chiefly of the commoner species, were collected. In the evening a meeting was held at the Royal Hotel, with the Mayor in the chair, when W. B. Grove, B.A., read a paper on the Esculent fungi of the district, illustrated by specimens on the table and some well-prepared dishes of three or four species



which were placed before the company, and eaten with general satisfaction. The specimens collected during the day supplied the text for some remarks on the discrimination of species by M. C. Cooke, an animated discussion bringing a very pleasant evening to a close. The most interesting fungus exhibited was a specimen of the rare *Lactarius utilis*, Wein., which had been collected in Warwickshire during the previous week by Mr. J. E. Bagnall, A.L.S.

HAMPSHIRE FIELD CLUB, OCT. 11 AND 12, 1888.—Although the crop of fungi was far richer than in the Forest of Dean, it was by no means equal in the New Forest to what it has been in previous years, whilst better than last year. In 1887 only about 106 species were collected and recorded during the two days, but in 1888 no less than 171 species were determined, and of these sixty-eight were species found also in the previous year, whilst thirty-eight of those found in 1887 did not put in an appearance in 1888. The first day's excursion was made in Boldrewood and Knightwood; the second day starting from Lyndhurst Road Station, through fir plantations, following the stream to the Kennels at Minstead. The evening of the first day was devoted to an exhibition of the specimens collected at the Hartley Institution, Southampton, and a demonstration by M. C. Cooke, chiefly confined to edible and poisonous fungi, illustrated by specimens on the table. Some of the most interesting of the species found during the excursions were *Hydnum auriscalpium* in profusion, as well as some very fine specimens of *Agaricus* (*Tricholoma*) *imbricatus*, *Tremelodon gelatinosum*, *Lactarius cyathula*, *Clavaria pistillaris*, *Clavaria aurea*, etc.

ESSEX FIELD CLUB, SATURDAY, OCT. 27, 1888.—The weather was all that could be desired, and yet the attendance was below the average of several years. It was at first intended to scour the slopes of Monkswood, but ultimately it was decided to commence at Fairmead, working upwards to Highbeech. The dearth of fungi was remarkable as compared with the same localities six weeks previously. The only additions made to the Forest catalogue were *Agaricus* (*Mycena*) *parabolicus*, Fr.; *Agaricus* (*Stropharia*) *thraustus*, Kalch.; *Polyporus* (*Fomes*) *applanatus*, Fr.; *Polyporus radiatus*, Fr.; *Grandinia granulosa*, Fr.; *Phlebia merismoides*, Fr.; *Corticium atrovireus*, B.; *Clavaria grisea*, Fr.; *Peziza badia*, P.; *Peziza succosa*, B. The specimens were arranged at the close of the day on tables at the "Roebuck," at Buckhurst Hill, and after tea an "ordinary" meeting was held, when the following papers were read: "Notes on the Larger Fungi of Epping Forest," by M. C. Cooke, and "Unsolved Problems in Plant-Life," by G. Massee.

General reports from all parts of the country characterize the present year as remarkably unproductive in fleshy fungi, except for a short period soon after midsummer.

## AUSTRALIAN FUNGI.

By M. C. COOKE.

***Polyporus (Ovini) tumulosus, Cke.***

Pileo carnoso (3-4 unc. diam.), firmo, convexo, pallido, squamulis innatis obscurioribus ornato, margine primitus incurvo, carne albo; stipite brevi, crasso, æquali (1-2 unc. long 1 unc. crass) solido, ochraceo, mycelio profuso, albo, spongioso oriundo; tubulis adnatis, vel subdecurrentibus, latis; poris magnis, inæqualibus, angulatis. Spor.  $12 \times 4-5 \mu$  pallide olivaceis.

On the ground. Near Brisbane. (*Bailey, 607.*)

"On the hard stony ridges about Brisbane, when trenching the land, large masses of mycelium are often met with. Some of the masses would weigh over a hundredweight. From its consistence one might fancy that a quantity of dough had been buried. My idea has always been that it was the mycelium of some *Boletus*." The specimens sent have some of the mycelium attached. Dr. Bancroft, who collected them, remarks that the natives make use of them for food, "a fact worth recording as so few are eaten by them." The description is drawn up from dried specimens, and no account was forwarded of the colour and appearance when fresh. Closely allied to *Polyporus Hartmanni, C.*

***Grandinia glauca, Cke.***

Subceracea, late effusa, adglutinata, glauca, ambitu determinato, hymenio æquali; granulis subconicis, æqualibus, minutis, confertis, concoloribus. Spor.  $8 \times 4 \mu$ .

On naked wood. Brisbane. (*Bailey, 627.*)

***Aleurodiscus albidus, Mass.***

Primum pezizæforme, margine erecto, tomentoso, inflexo, dein explanato-expanso, sæpeque confluenti; hymenio albo, subpulverulento, in sicco hinc inde rimoso; sporis ellipsoideis  $10-12 \times 9 \mu$ .

On branches. Brisbane. (*Bailey, n. 620.*)

Plants pure white, at first scattered, 2-3 lines in diameter, often becoming confluent and forming irregular patches;  $\frac{1}{2}-\frac{3}{4}$  in. across.

***Uromyces diploglottidis, Cke. & Mass.***

Epiphylla. Soris sparsis, convexis, minutis, diu tectis, demum fissuratis, pallide fuscis, maculis orbicularibus virentibus insidentibus. Teleutosporis ellipticis, apice obtuse acuminato, basi in stipitem brevi attenuato. Episporio hyalino, crasso, plasmate granuloso, pallido,  $50-60 \times 20-30 \mu$ .

On fading leaves of *Diploglottis*. Brisbane. (*Bailey, 626.*)

***Phoma plagia, Cke. & Mass.***

Maculis determinatis, glaucescentibus, ellipticis vel confluentibus, margine lineato circumscripto; peritheciis minutissimis, atris, emergentibus; sporulis ellipticis, binucleatis, hyalinis,  $8-9 \times 5 \mu$ .

On palm leaves. Daintree River. (*Bailey, 464.*)

**Phoma diploglottidis**, Cke. & Mass.

Hypophylla, gregaria. Peritheciis semi-immersis, atris, minutis, papillatis; sporulis arcte amygdalæformibus, binucleatis, hyalinis,  $10-11 \times 4-5 \mu$ .

On fading leaves of *Diploglottis*. Brisbane. (Bailey, 626.)

**Phyllachora alpinia**, Cke. & Mass.

Maculis ex fusco piceo-nigris, elongatis, linearibus vel lanceolatis, hinc illic confluentibus; stromatibus atris, nitentibus, rugulosis, nunc orbicularibus nunc confluentibus. Ascis clavato-stipitatis. Sporidiis ellipticis, continuis, hyalinis, biserialibus  $11-14 \times 5-6 \mu$ .

On fading leaves of *Alpinia cærulea*. Brisbane. (Bailey, 623.)

## NEW BRITISH FUNGI.

By M. C. COOKE.

(Continued from p. 42.)

**Phoma tingens**, Cke. & Mass.

Scattered. Perithecia minute, subglobose, black, papillate, seated on bright red spots, which penetrate the matrix; sporules oval,  $3.4 \times 1\frac{1}{2} \mu$ , hyaline.

On stems of *Delphinium elatum*. Kew, Jan., 1889.

**Phoma Jacquiniana**, Cke. & Mass.

Caulicolous. Perithecia gregarious, minute, black, papillate, elevating and at length piercing the cuticle, sporules elliptical, nucleate at each end, hyaline,  $15 \times 5 \mu$ .

On stems of *Delphinium Jacquinianum*. Kew, Jan., 1889.

**Phoma gibberoides**, Cke. & Mass.

Caulicolous. Perithecia scattered, membranaceous, rather soft and gelatinous, large, subglobose, then depressed, pierced at the apex, erumpent, dark brown, sporules profuse, cylindrical, obtuse, straight or slightly curved, hyaline,  $14 \times 2 \mu$  on short sporophores.

On stems of *Delphinium elatum*. Kew, Jan., 1889.

**Physarum Carlylei**, Massee.

Sporangia stipitate, globose, orange-vermilion, minutely furfuraceous; stem about equal in length to diameter of sporangium, thick, rugulose, vermilion, expanding downwards into a small, wrinkled hypothallus; capillitium threads thin, yellow, forming a dense net, swollen at the angles, and there containing orange-coloured granules of lime; columella absent; spores globose, smooth, dirty violet,  $7-8 \mu$  diameter.

On rotten wood. Carlisle (Dr. Carlyle).

A very distinct species, sporangia 1.5-2 mm. high, scattered singly or in groups of two or three. Most nearly related to *Physarum rubiginosum*, Fr., but readily distinguished by the smaller spores, and the scattered, stipitate sporangia.

## BRITISH PYRENOMYCETES.

BY G. MASSEE.

*(Continued from p. 6.)*

Fam. II. **LOPHIOSTOMACEÆ**. Perithecia subsuperficial, ostiolum compressed, more or less broad, rimose.

GEN. 1. **LOPHIOSPHERA**, *Trev.* Sporidia oblong or fusiform, hyaline.

**LOPHIOTREMA**. *Sporidia 2, or many septate.*

*L. hederæ*, *Fckl., Sacc. Syll.* 5416.

On ivy. Exmouth, Eastbourne.

*L. nucula*, *Fr., Sacc. Syll.* 5419 ; *Hdbk.* 2540.

On oak bark.

*L. præmorsum*, *Lasch., Sacc. Syll.* 5427 ; *Hdbk.* 2545  
(= *Loph. Jerdoni*, B. & Br.).

On *Rubus idæus* and elm. Mossburnford, King's Cliffe, East Bergholt.

*L. semiliberum*, *Desm., Sacc. Syll.* 5428 ; *Hdbk.* 2548.

On culms of reeds and grasses.

*L. sexnucleatum*, *Cke., Sacc. Syll.* 5432 ; *Hdbk.* 2543.

On nettle stems. Shere, near Guildford ; North Wootton.

**VIVIANELLA**. *Sporidia appendiculate.*

*L. angustilabrum*, *B. & Br., Sacc. Syll.* 5448 ; *Hdbk.* 2542.

On gorse, elm, and ash. Leicester, Forden, Shere, North Runcton, Lynn.

GEN. 2. **LOPHIOSTOMA**. Sporidia coloured.

\* **LOPHIELLA**. *Sporidia boat-shaped.*

*L. cristata*, *Pers., Sacc. Syll.* 5397.

On twigs and branches. Wothorpe, Twycross.

\*\* **GENUINA**. *Sporidia 3, or many septate.*

A. **EU-LOPHIOSTOMA**. *Perithecia rather small.*

† *Sporidia 3 septate.*

*L. quadrinucleatum*, *K., Sacc. Syll.* 5451.

On *Rhamnus frangula*. North Wootton.

*L. viridarium*, *Cooke, Sacc. Syll.* 5457 ; *Hdbk.* 2539.

On decorticated twigs of maple. Shere.

†† *Sporidia multiseptate.*

*L. fibritectum*, *B., Sacc. Syll.* 5476 ; *Hdbk.* 2541.

On bleached larch planks. King's Cliffe.

- L. caulium*, Fr., *Sacc. Syll.* 5452; *Hdbk.* 2546.  
On dead stems of *Epilobium hirsutum*, etc. Shere.  
*L. arundinis*, Fr., *Sacc. Syll.* 5486; *Hdbk.* 2547.  
On reeds and grasses. Shere, Chiselhurst.

*B. NAVICELLA. Perithecia large.*

- L. macrostomum*, Tode, *Sacc. Syll.* 5490; *Hdbk.* 2537.  
On sycamore and holly. King's Cliffe, East Bergholt,  
Twycross, Shere, Kidbrooke, Orton Wood, Leicester;  
Forres, N.B.  
*L. excipuliforme*, Fr., *Sacc. Syll.* 5491; *Hdbk.* 2544.  
On bark, wood, and furze. King's Cliffe, Sibbertoft.

*C. ROSTELLA. Sporidia appendiculate.*

- L. bicuspidatum*, Cke., *Sacc. Syll.* 5512; *Hdbk.* 2538.  
On decorticated twigs. Shere, Darenth, Leatherhead, King's  
Lynn.

GEN. 3. **LOPHIDIUM**, *Sacc.* Sporidia muriform, coloured.

- L. compressum*, P., *Sacc. Syll.* 5531 (= *L. angustatum*, Fckl.).  
On willow. King's Lynn, Northampton.

## MEMORABILIA.

**LYCOPERDON MISSOURIENSE**, *Trelease. Trans. St. Louis Acad. Sci., Dec.*, 1887.—This undoubtedly is the same as *Lycoperdon lilacinum*. B. & M.

**POLYPORUS SALIGNUS**, *Fries.*—There is every probability that the *Polyporus obducens*, Fr., is a resupinate form of the above. Both have been found together, both are strato-se, and have identical spores. A form of *P. salignus*, in Herb. Berk., is placed with, and referred to, *P. zonatus*, Fries, which latter should not be strato-se.

**LOPHODERMIVM PETERSII**, B. & C., *Sacc. Syll.* 5822. On branches of *Cupressus* and *Juniperus*. Perithecia 1-1½ mm. Sporidia 60 × 2 μ. This is identical with *Colpoma juniperina*, Cooke & Peck.

**COLPOMA AZALEÆ**, *Schw.*—Perithecia 1-3 mm. Sporidia 90 × 2 μ.

**HYSTERIVM CARMICHAELIVM**, *Sacc. Syll.*, 5670.—Sporidia 30-32 × 18 μ, otherwise the same as in *H. repandum*, Blox. (*Sacc.* 5566), hence a species of *Farlowia*.

**HYSTERIVM INSIDENS**, *Schwz. (Sacc. Syll.* 5762).—Sporidia in authentic specimen from Schweinitz are not muriform, but 7-9 septate, with the third or fourth joint swollen, 45-50 × 15 μ,

scarcely distinct from *H. Berengeri*, Sacc., but certainly belonging to *Hysterium*.

**BOTRYODIPLODIA ACINOSA**, Fr.—Specimens of *Sphæria acinosa* from Moug. & Nestl. Exs., No. 769, and apparently direct from Mougeot, are respectively a *Botryodiplodia*. Sporules scarcely constricted, dark brown,  $16-20 \times 8-10 \mu$ , very variable in size.

**AGARICUS (LEPIOTA) ECHINODERMATIS**, Cke. & Mass. in *Grevillea* xvi., p. 30.—On comparison this does not appear to be specifically distinct from *A (Lepiota) asprata*, Berk.

**HEMIARCYRIA LEIOCARPA**, Cke., *Myxos U.S.*, p. 405, *Sacc. Syll.* 1519.—In Saccardo this is stated to be a species of Rostafinski's (Mon. p. 267), but its publication as a species was subsequent to the Monograph by Rostafinski, and consequently could have no mention in that work.

**TRICHIA ABRUPTA**, Cke., *Myxos U.S.*, p. 404, *Sacc. Syll.* 1511.—No description given in the "Sylloge," whereas a full diagnosis was published as above.

**TRICHIA AFFINIS**, D'By., *Sacc. Syll.* 1499.—The character of the spores, in so far as they differ from those of its allies in the bands being punctate, is not mentioned in the "Sylloge" at all; and further, the threads are not "connected in a net."

**CLAVARIA VELUTINA**, Ell. & Ev., *N. Amer. Fungi*, No. 2024.—This is *Lachnocladium semi-vestitum*, B. & C. Spores globose, colourless,  $4-5 \mu$ ; Berkeley's type is from New Jersey.

**CLAVARIA FRAGRANS**, Ell. & Ev., *N. A. F.* 2023.—This is *Lachnocladium Micheneri*, B. & C.

## SOME EXOTIC FUNGI.

By M. C. COOKE.

**Marasmius sanguineus**, Cke. & Massee.

Pileo convexo, membranaceo, sanguineo ( $1-1\frac{1}{2}$  cm. diam.) glabro, lævi; stipite elongato, glabro, pallido (4 cm. long), lamellis paucis, distantissimis, ventricosis, adnexus, pileo concoloribus.

On dead leaves. Laion Forest, Dominica. West Indian Exploration Committee (*Ramage*).

Allied to *Marasmius rhabarbarinus*, Berk.

**Polyporus (Petalodes) cervicornis**, Cooke.

Pileo carnosolento, glabro, e basi stipitiformi brevi ramoso-extenso, tota albido, segmentis planis, digitato-furcatis, uni-vel bi-rarius tri-dichotomis, apicibus acutis; poris brevibus, rotundatis, minutis, æqualibus.

On logs. Forest St. Lucia.

A singular species, resembling a *Clavaria* in form, about 3 inches in length, deeply cut into segments, which do not exceed  $\frac{1}{2}$  cm. in width, with the hymenium on the under surface.

***Bovista asterospora*, Massee.**

Peridio globoso, papyraceo, ochraceo, sursum glabro, deorsum scrobiculato, vertice rumpente; floccis hyalinis, parce ramulosis, 6-7  $\mu$  cr., sporis globosis, ecaudatis, dense majusculaque spinulosis, umbrinis, 7-8  $\mu$  diam.

On the ground. Dominica (*Ramage*).

From half to two-thirds of an inch diameter, sometimes furnished with a long, slender root. Well marked by the scrobiculate base of the peridium, colourless threads, and densely spinulose spores.

***Lycoperdon Dominicensis*, Massee.**

Peridio subgloboso; depresso, sæpius in basim stipitiformem attenuato, verrucis spinuliformibus, vel pyramidatis, demum deciduis obsito; basi sterili distincta; floccis parce ramulosis, hyalinis, 5-6  $\mu$  cr., sporis globosis, glabris, longe pedicellatis, e fusco dilute purpureis, 5-6  $\mu$  diam., pedicello 20-25  $\times$  1.5 hyalino.

On the ground. Dominica (*Ramage*).

Peridium half to two-thirds of an inch across. Remarkable in having the spores furnished with long persistent pedicels as in the allied genus, *Bovista*.

***Lepidoderma stellatum*, Massee.**

Peridiis sphericis, stipitatis, subtus umbilicatis, nigro-fuscis, squamis albis variegatis, majusculis, maturitate stellatim ruptis; stipite crassiusculo, erecto, striatulo, albo; columella hemispherica vel subclavata, albido-flava; floccis capillitii tenerrimis, flexuosis, incoloribus; sporis lævibus, violaceis, 10-12  $\mu$  diam.

On rotten wood. Dominica (*Ramage*).

A very fine and distinct species, scattered or gregarious, 2.5-3.5 mm. high. When young the sporangia are pure white, the outer coat eventually becoming broken up into large scales. When mature the sporangia split nearly to the base into 4-6 irregular, acute segments.

---

## SACCARDO'S SYLLOGE, VOL. VI.

This volume comprises the residue of the *Hymenomycetes* not already included in Vol. v., as the *Polyporei*, *Hydnei*, *Thelephorei*, *Clavarii*, and *Tremellini*. As far as a hasty and cursory glance can impress anyone, the conclusion must be satisfactory. Nothing novel or sensational in classification has been attempted, and if all the innumerable species, the diagnoses of which have hitherto been scattered in all directions, have been carefully collected into one volume enough has been done to merit the thanks of all work-

ing mycologists. Some omissions will, doubtless, be discovered, since we have already failed to trace some of the species described in Schweinitz's "Synopsis Carolinensis," but let us hope that the omissions are but few. It would be absurd to attempt any elaborate criticism of a volume of this character without having applied the crucial test of experience. Those who are called upon to use it day by day will soon discover all that can be urged against it. Altogether, we are strongly of opinion that these two volumes (v. and vi.), which contain the *Hymenomycetes*, will be more used and better appreciated than any of those which preceded them. About two additional volumes, which are promised for 1889, will complete this arduous undertaking, and we congratulate Professor Saccardo on his energy and promptitude. One part has already appeared since the foregoing paragraph was written.

---

## VOL VII., PART II.

This part, which completes the seventh volume, contains some 400 pages, and is devoted to the *Ustilagineæ* and the *Uredineæ*, compiled by Dr. J. B. de Toni. Very little criticism can be offered on this part, in which the usual classification prevalent throughout the work is continued. There are the *Amerosporæ*, *Didymosporæ*, *Phragmosporæ*, and *Dictyosporæ*, and finally a subsidiary group of imperfect forms (*Status secundarii*), but nothing sensational. It is strange how an error which has once got into print becomes perpetuated. At p. 768 two species of *Milesia* are described; one of these is *Milesia Polypodii*, B. & White, which is the type, and the only species in fact. The other is *Milesia Polygoni*, B. & White, which is merely the copy of a misprint in the "Annals of Natural History," No. 1,709, and really was intended for *Milesia Polypodii*.

No. 2,959, *Æcidium incarcerationum*, B. & Br., is only a synonym of *Doassansia Sagittariæ*.

No. 2,930, *Æcidium strobilinum*, A. & S., has already appeared in Vol. iii. (No. 3,655) as *Pleosporopsis strobilinum*, Cerst.

By some oversight *Testicularia*, Klotsch., has been omitted from the *Ustilagineæ*, to which it is clearly allied, and inserted in *Lycopodaceæ* (Vol. vii., p. 150), with which it has no affinity.

However, these are merely stray suggestions which have occurred to us in casually turning over the pages. The merits and demerits of such a work do not appear until tested by experience. At any rate this, as well as the kindred volumes, will be indispensable to the library of the mycologist, especially when the appendices have swept up all the stray species from out-of-the-way places, which may have been overlooked and forgotten, notably those of which the diagnoses have been issued with the specimens in some *exsiccati*, and are not published elsewhere.



## BRITISH UREDINEÆ AND USTILAGINEÆ.\*

The promised "Monograph of the Uredines" has now been published in a handsome volume, against the "get-up" and appearance of which nothing can be urged of more importance than the colour of the binding, which may be eccentric, but it is not "nice." Fortunately neither a good man nor a good book depends on the colour of the coat in an estimate of value. It is generally enough known, amongst readers of this journal, that we do not accept the hypothesis advanced by Mr. Plowright as sufficient or as proven. Apart from this, and with a reservation to that extent, we proceed to an unprejudiced examination of the work in question. The first hundred pages are biological. The remaining two hundred are systematic. The former portion includes—Mycelium of the Uredineæ, Spermatogonia, Æcidiospores, Uredospores, Teleutospores, Heteræcism, Mycelium of the Ustilagineæ, Germination of Teleutospores, Infection of Host Plants, Spore Culture, and Artificial Infection of Plants. The latter portion contains descriptions of the British Uredineæ, Imperfect forms, Descriptions of British Ustilagineæ, Allied and associated species, The Barberry law of Massachusetts, Glossary, List of authors quoted, Index of Host plants, Biological Index, and Index of species, the whole illustrated with 13 woodcuts and 8 plates. The type employed is new and clear, the pages free from all crowding, the paper good, so that altogether it is a book agreeable to handle and read.

The author appears to have done his work as carefully and conscientiously as the printer. The biological portion is forcibly and lucidly explained, and the peculiar views are urged with moderation, but with unflinching perseverance. It is no small praise to add that throughout the whole work there is an entire absence of those disagreeable personalities, which serve no useful purpose, and are petty in themselves, but which have sadly disfigured some scientific books. This is, we presume, the first time that Mr. C. B. Plowright has made his appearance as the author of a whole volume, entirely to himself. We congratulate him most heartily on the result, for the slight criticisms we shall hereafter make are insufficient to affect the general character of the work.

There appear to be some few botanists who love to banish old and well-established specific names in favour of others, which they are ready to suppose have a still older and prior claim. It is not too much to say that, even in cases where priority could be claimed, it is seldom advisable to increase synonymy by such unnecessary alterations. Whenever the alteration *is* made, it should be made,

\* "A Monograph of the British Uredineæ and Ustilagineæ," by C. B. Plowright, with woodcuts and eight plates. London: Kegan Paul, Trench, and Co., 1889.

at least, upon indisputable grounds. It was some satisfaction to us to discover that our author had not followed some Continental authors in this iniquity, but retained still the names sanctioned by long usage. There are, nevertheless, one or two instances in this work in which "emendations" are made to which we take exception.

*Puccinia arundinacea*, Hedw., is replaced by *Puccinia phragmitis*, on the ground that the uredospores were described previously as *Uredo phragmitis*, Schum.

*Puccinia truncata*, B. & Br., is superseded by *Puccinia iridis*, because the uredospores were described first as *Uredo iridis*, D.C.

*Puccinia luzulæ*, Lib., has to give way for a similar reason to *Puccinia oblongata*.

*Puccinia noli-tangeris*, Corda, has been made to succumb to *Puccinia argentata*.

*Puccinia anemones*, Pers., is abolished in favour of *Puccinia fusca*, because Relham called it *Æcidium fuscum*.

*Puccinia scorodoniæ*, Link., is superseded by *Puccinia annularis*, because its uredospores were called *Uredo annularis* by Strauss.

But, worse than all, *Puccinia sparsa*, Cke., has been supplanted by *Puccinia tragopogi*, because the *Æcidium tragopogi* of Persoon was first described; altogether ignoring the fact that for 45 years there has been another *Puccinia tragopogi* described and figured by Corda, as *P. tragopogonis*.

We contend that all these changes were quite unnecessary, and hence unjustifiable; because "the essential point in nomenclature is to avoid, or to reject the use of forms, or names, that may create error or ambiguity, or throw confusion into science. Next in importance is the avoidance of any useless introduction of new names." (*Laws of Botanical Nomenclature*.)

"It is impossible to deny a certain right of custom; the maintenance of well-known names of forms in frequent use often gives clearness or precision, and does away with the necessity of new ones." (*Commentary*.)

"Nobody is authorized to change a name because it is badly chosen or disagreeable, or another is preferable or better known, or for any other motive, either contestable or of little import." (*Laws of Botanical Nomenclature*.)

There is another point on which there will doubtless be students, as ignorant as ourselves, who would desire to be enlightened.

At page 150 occurs *Puccinia variabilis*, Grev., Fl., Ed., p. 431, with its *Æcidiospores* = *Æcidium Taraxici*, Grev., Fl., Edin., p. 444.

Again, at p. 186 is *Puccinia taraxici*, Plow., with its synonym, *Puccinia variabilis*, Grev., Fl., Edin., p. 431. Does the description by Greville fit both species, or is there only one? Our own experience is in favour of there being two distinct species of *Puccinia* on leaves of *Taraxacum*, the teleutospores of which are readily distinguishable by the microscope; but surely both were

not included within the one description by Greville, or, if so, "in part" should have followed each citation.

Again, it seems rather puzzling to some, who may not be wedded to a preconceived theory, that *Æcidium ranunculacearum*, D.C., should furnish at p. 130 the *Æcidiospores* of *Uromyces dactylidis*, at p. 130 the *Æcidiospores* of *Uromyces Poæ*, at p. 178 the *Æcidiospores* of *Puccinia magnusiana*, at p. 180 the *Æcidiospores* of *Puccinia perplexans*, and at p. 266 the *Æcidiospores* of *Æcidium ranunculacearum*, doubtfully belonging to any *Uromyces* or *Puccinia*. Doubtless this is one of the things which Lord Dundreary would have said "no feller can understand."

It has yet to be shown that Biological characters alone are sufficient to constitute that variable quantity called "a species."

We fail to appreciate the advantage of including at all in a work of this kind such species as *Æcidium strobilinum*, A. & S., which is not an *Æcidium* at all, but belongs to the Sphæropsidæ, as *Pleosporopsis strobilinum* (Sacc. Syll., Vol. iii., p. 693).

And *Æcidium incarcerationum*, B. & Br., which is undoubtedly a synonym of *Doassansia Sagittariæ*, Fckl., afterwards entered on p. 295.

And, finally, *Tuberculina persicini*, Ditm., one of the Hyphomycetes, included by Saccardo (Sylloge, Vol. iv., p. 653) in the Tuberculariæ, with which arrangement we concur.

This much is sufficient to show that, with the exception of certain doctrines, we can find but little to complain of in this book, but, on the contrary, can conscientiously advise all our readers to possess themselves of a copy before it is out of print, and not wait to make wry faces when they are compelled to buy it up as a "scarce" work at fancy prices.

M. C. C.

## FUNGI SCANDINAVICI.

Supposed that a sufficient number of subscribers should be interested, I intend, with the assistance of experienced men of science, to publish a collection of dried (and pressed) Fungi, especially Scandinavian. The work, that might have the title of

"FUNGI EXSICCATI PRÆSENTIM SCANDINAVICI,"

is intended to comprehend, as far as possible, all the orders and families of the Fungi. It will be distributed in fascicles of 100 species or forms. The Fungi will be fixed on loose sheets in order to afterwards be arranged at will. The number of the fascicles is undefined. Until further notice, 1-3 fascicles a year will be published from 1889 forward. Price per fascicle, 11s., exclusive the freight. It may be subscribed to one, several, or all fascicles, at pleasure. Orders are to be addressed to me before 1 May, 1889.

Contributions respectfully requested.

LARS ROMELL,

Fil. Kand., Karlavägen 28, Stockholm, Sweden.

## OMITTED DIAGNOSES.

The following are some of the Diagnoses mentioned in "Grevillea," xvii., p. 19, as omitted from Saccardo's "Sylloge."

**Cercospora calthæ**, Cooke.

Maculis orbicularibus, epiphyllis, fuscis, hyphis brevibus, hyalinis; conidiis cylindraceis, supra subattenuatis; septis vix distinctis,  $30-35 \times 2 \mu$ .

On leaves of *Caltha*. Forres, N.B.

**Cercospora longissima**, Cke. & Ellis.

The same as *C. beticola*, Sacc.

On beet leaves. New Jersey. (Ellis, 2721.)

**Heterosporium maculatum**, Klot. in Herb. Kew.

Cæspitulis minutis, gregariis. Hyphis brevibus, septatis, flexuosis, brunneis, mycelio radiante, concolori, oriundis. Conidiis ellipticis, utrinque rotundatis, 1-3 septatis, fuscis,  $25-28 \times 12 \mu$ . Episorio minute granuloso-asperatis.

On stems and leaves of Monocotyledons—apparently *Typhæ* and *Sparganium*.

**Dendryphium quadrisepatum**, Cooke.

Tenue effusum. Hyphis fasciculatis, erectis, obscure septatis, ad apicem ramulosis, ramulis plerumque oppositis; conidiis cylindraceis, quadrisepatis, nec constrictis, atro-fuscis,  $30-35 \times 8-9 \mu$ .

On decorticated *Magnolia*. New Jersey. (Ellis.)

**Goniothecium subglobosum**, Cooke.

Acervulis orbicularibus, applanatis, atris (sub. 1 mm. diam.), conidiis subglobosis vel ovatis, 1-3 septatis, sæpe cruciatis, fuscis,  $14 \times 10$ , vel  $15 \times 8-9 \mu$ .

On leaves of *Calocasia* ("tara"). Raritonga.

**Macrosporium chelidonii**, Rabh. Unio. Itin. xxxvii.

The specimens in the Kew Herbarium Exsiccati are without fruit, and no diagnosis is within our knowledge.

On *Chelidonium glaucium*. Alghero. (Dr. Marcucci.)

**Macrosporium cæspitosum**, Rabh. Unio. Itin. xxxii.

Cæspitula initio sparsa, demum confluentia; hyphæ erectæ, rigidæ, simplices, in morem *H. subulati*; sporæ omnium maximæ, oblongo-cylindricæ v. clavatæ, plus minus curvulæ, diametro (.0006-.0007"), 4, 5-6 longiores, multi-septatæ, basi sæpius in caudam stipitiformem productæ.

On twigs of *Quercus*. Tempio-Gallura. (Dr. Marcucci.)

**Macrosporium elegantissimum**, Rabh. Unio. Itin. xxxv.

Cæspitulis densis, erumpentibus, atris, floccosis; floccis simplicibus, subtilibus, hyalinis; sporis subglobosis oblongisve, varie

divisis, sæpe muriformibus, dilute aureis, septis obscuris, diametro æqualibus vel duplo longioribus. *Rabh. Fung. Eur.* 2883.

On twigs. Alghero, Sardinia. (*Dr. Marcucci.*)

The type specimen is not a *Macrosporium*.

**Macrosporium oleandri**, *Rabh. Unio. Itin.* XXIX.

"Sporis oblongis v. subclavatis, tetrablastis '0006" longis."

On twigs of *Nerium oleander*. Tortoli. (*Dr. Marcucci.*)

The Kew Herbarium specimens are sterile, and the sole description is given above.

**Macrosporium spaniotrichum**, *Rabh. Unio. Itin.* XXIX.

Cæspitulis gregariis, erumpentibus, minutis, atris. Hyphis brevibus, simplicibus, septatis, sporarum æquilongioribus, hyalinis; sporis elongato-ellipticis, triseptatis (nondum muriformibus) fuliginis,  $30 \times 10 \mu$ .

On herb stems. Terranova. (*Dr. Marcucci.*)

This is evidently not a *Macrosporium*.

**Macrosporium graminum**, *Cooke Rav. Amer. Ex.* 606.

Effusum, tenuissimum, nebulosum. Hyphis repentibus, demum ramulis assurgentibus, flexuosis, septatis, fuscis conidiis clavatis 4-5 septatis, subconstrictis, dein muriformibus, fuscis,  $60-70 \times 22 \mu$ .

On leaves of bamboo. S. Carolina.

**Cladosporium chætomium**, *Cooke.*

Cæspitulis minutis, in foliis viventibus, erumpentibus, atris, peritheciis *Chætomii* simulantibus. Hyphis densissime congestis, flexuosis, simplicibus, septatis, fuscis; conidiis uni-dein triseptatis, cylindricis, obtusis,  $30-40 \times 7 \mu$ , pallide fuscis.

On leaves of *Euphorbia*. New Jersey. (*Ellis No.* 2289.)

**Cladosporium gleditschie**, *Cke. in Rav. Amer. Ex.* 297.

Carpigenum, effusum, olivaceum. Hyphis repentibus, assurgentibus, tenuibus, flexuosis, septatis, fuscis; conidiis arcte ellipticis, demum elongatis, 1-3 septatis vix constrictis, succineis,  $12-20 \times 4 \mu$ .

On legumes of *Gleditschia*. S. Carolina.

**Cladosporium microporum**, *Rabh. Unio. Itin.* XLII.

Hypophyllum. Cæspitulis erumpentibus, gregariis, minutissimis, atris. Hyphis conidiisque—?

On leaves of *Nerium oleander*. Gonnos-Fanadiga. (*Dr. Marcucci.*)

In our specimens only a minute species of *Coniothyrium* can be found.

**Cladosporium obtectum**, *Rabh. Unio. Itin.* XXXVI.

Epiphyllum, tenue effusum. Hyphis repentibus, demum assurgentibus, tenuibus, flexuosis, septatis, fuscis; conidiis ellipticis,

cylindraceutis, vel clavulatus, uniseptatis, utrinque subattenuatis, pallide fuscis,  $12-16 \times 5-6 \mu$ .

On *Artemisia maritima*. Alghero. (Dr. Marcucci.)

**Cladosporium pelliculosum**, Berk. & Curt. in Herb.

Scarcely appears to differ from *Cladosporium effusum*, B. & C., and does not seem to have been described.

On leaves of *Polygonum punctatum*, *Lobelia*, etc. S. Carolina.

**Cladosporium subnodosum**, Cke. in Rav. Amer. Ex. 294.

Epiphyllum. Cæspitulis orbicularibus (circa 1 mm.), atrolivaceis, compactis. Hyphis flexuosis, crassiusculis, fuscis, septatis, ad septis nodulosis, ad apicem, hyalino-attenuatis; conidiis ellipticis, utrinque rotundatis, 1-3 septatis, olivaceis, minutissime granulato-asperatis,  $15-25 \times 9-10 \mu$ .

On leaves of *Spinacia*. S. Carolina.

Probably *Heterosporium*.

**Ceratophorum subulatum**, Cke. & Ellis. = *Clasterosporium subulatum*, Cooke & Ellis.

Effusum, atrum. Hyphis repentibus, ramosis, parvis, septatis, conidiis majusculis, rectis, obclavatis, 5-7 septatis, nucleatis, fuliginosis, apice in cuspidem longam, hyalinam, continuum desinentibus,  $70-100 \times 15 \mu$ , cum cuspidem  $180 \mu$  long.

On bark of *Liquidambar* and *Castanea*. S. Carolina and New Jersey.

**Helminthosporium avenaceum**, Curtis Herb.

Effusum, atrum, tenue velutinum. Hyphis erectis, crassiusculis, septatis, subopacis, conidiis cylindraceutis, vel subfusoides, utrinque rotundatis, 4-5 septatis, pallide melleis  $75-85 \times 15 \mu$ .

On straw. United States.

**Helminthosporium collabendum**, Cooke.

Effusum, indeterminatum, atrum. Hyphis flexuosis, septatis, hinc illic breviter furcatis, fuscis; conidiis fusiformibus triseptatis (rarius quadrisepatis) aureo-fulvis,  $60-70 \times 12-14 \mu$ . Episporio tenui, collabendo.

On bark. S. Carolina.

**Helminthosporium gramineum**, Rabh. Herb. Myc. 332.

Tenuissime effusum. Hyphis brevibus, subflexuosis, pallide fuscis. Conidiis solitariis, elongato-cylindraceutis, 3-6 septatis.

On fading leaves of *Hordeum vulgare*. Poppelsdorf.

Allied to *H. gracilis*, Wallr., but differing in the conidia being solitary and elongated-cylindrical, 3-6 septate.

**Helminthosporium minimum**, Cooke.

Tenne effusum, velutinum, atrum. Hyphis erectis, tenuibus, fuscis (vix  $100 \mu$  longis excedentibus). Conidiis fusiformibus, utrinque obtusis, triseptatis, hyalinis,  $12-14 \times 3-4 \mu$ .

On decorticated branches. Hereford.

**Helminthosporium palmetto, Gerard.**

Tenuissime in plagas orbiculares, effusum quandoque confluens. Hyphis erectis, crassiusculis, septatis, fuscis. Conidiis fusiformibus, triseptatis, aureo-succineis,  $45 \times 8 \mu$ .

On leaves of Palmetto. Louisiana, U.S.

**Helminthosporium resinaceum, Cooke.**

Effusum, indeterminatum, atrum, opacum. Hyphis simplicibus vel furcatis, septatis, constrictis, crassiusculis, fuligineis. Conidiis subfusiformibus, majusculis, 7 septatis, quandoque leniter curvulis,  $70 \times 10-12 \mu$ , olivaceo-fuscis.

On Pine resin. Shère.

**Helminthosporium reticulatum, Cooke Fun. Britt. I., 360.**

Reticulato-effusum, maculas irregulares efformantibus. Hyphis fasciculatis, flexuosis, tenuibus, septatis, fuscis, ad apicem hyalinis. Conidiis subfusiformibus, utrinque obtusis, triseptatis, constrictis, fuscis,  $22 \times 7 \mu$ .

On dead leaves of *Fraxinus*. Thirsk, Yorkshire.

**Helminthosporium congestum, Berk. & Curt.**

This is doubtful. The specimen from Wright (Cuba) is barren, and hence cannot be described. There is no specimen under this name in the Berkeley Herbarium, and no diagnosis appears to have been published.

**Verticillium puniceum, Cke. & Ellis.**

Puniceum, subcompactum; cæspitulis pulvinatis, ellipticis vel confluentibus. Hyphis tenuibus, septatis, ramosis; ramulis verticillatis, brevibus, roseo-tinctis; conidiis ellipticis, minutis, continuis, profusis, hyalinis,  $4 \times 2 \mu$ .

On wood of *Quercus*. Newfield, N.J. (Ellis 2222).

**Botrytis cubensis, Berk. & Curt.**

This proves to be only a synonym of *Peronospora cubensis*, B. & C.

**Botrytis brunneola, Rabh. Herb. Myc. 771.**

Acervules velutinis, effusis, olivaceo-fuscis; hyphis erectis, subsimplicibus, fuscis; ramis verrucæformibus s. elongatis. Conidiis oblongis, vel ovoideis, hyalinis, e verrucis innovantibus, episporio pallide colorato ( $8-10 \times 5-6 \mu$ ).

In capitulis humi jacentibus. Doemitz.

**Botrytis sonchicola, Rabh. Herb. Myc. 175.**

This is fully described in "Botanische Zeitung" for 1852, p. 620.

**Botrytis atrofumosa, Cooke & Ell.**

Effusa, indeterminata, atrofumosa, hyphis tenuibus, gracilis, sparse furcatis, septatis, subhyalinis; conidiis profusis, agglomeratis, subglobosis, continuis, fuscis,  $5.6 \times 4 \mu$ .

On *Quercus* bark and wood. S. Carolina. (Rav. 3275). N. Jersey, U.S. (Ellis 2773.)

**Sepedonium armeniacum**, Berk. & Curt.

Specimens of *Sepedonium subochraceum*, B. & C., were distributed by Curtis under this name, and it is, therefore, synonymous.

**Fusidium leptospermum**, Pass. in Speg. Dec. 54.

Maculae hypophyllae, albæ, subrotundæ, parvulae; conidia tenuia, fusiformi-clavata, hyalina  $30-45 \times 2\frac{1}{2}$  foveantes.

On leaves of *Ranunculus bulbosus*. Parma.

**Cylindrium minutissimum**, Rabh. Univ. Itin. XXIV.

Perexiguum; conidiis cylindricis, utroque polo rotundatis, achrois, hyalinis, apicibus concatenatis; catenis plus minus ramosis.

In consortio *Torulæ*. Lanusei. (Marcucci.)

**Oidium obtusum**, Thum. Myc. Univ. 289.

Hyphis longissimis, simplicibus, rectis, interdum septatis; conidiis cylindræis, utrinque obtusis, hyalinis, longitudine varie, 6-16  $\mu$  long, 5  $\mu$  crass.

On cheese. Bayreuth.

**Oidium cydoniæ**, Pass. in Thum. Myc. Univ. 1667.

Conidia elliptica, sub-solitaria, vel duo triaconcatenata, hyphis longis fulta, 22-23  $\mu$  long, 15  $\mu$  crass.

On leaves of *Cydonia vulgaris*. Parma.

**Sterigmatocystis agaricini**, Therry MSS. (neo Speg. MSS.).

*Sporotrichum resinæ*, Fries = *Racodium resinæ*, Fr. Obs. I. 216.

**Haplaria Elisii**, Cooke.

Tenuiter effusa, purpureo-fusca. Hyphis tenuibus, erectis, simplicibus, subopacis, atro-fuscis; conidiis ovatis, continuis, concoloribus  $4 \times 2 \mu$ .

On wood of *Abies Douglassi*, etc. California. New Jersey, U.S.

## SOME BRISBANE FUNGI.

By M. C. COOKE.

**Mutinus sulcatus**, Cke. & Mass.

Stipite cylindrico, cervino (10 cm. long,  $1\frac{1}{2}$  cm. crass), parte sporifera  $\frac{1}{8}$  totius receptaculi altitudinis longa, campanulato, longitudinaliter sulcato, transverse ruguloso, apice demum pervio, vel lacerato, margine contiguo, atro-olivaceo. Volva ampliata, alba. Sporis  $3 \times 1\frac{1}{2} \mu$ .

On the ground. Brisbane. (Bailey, 640.)

**Strumella hysteroidea**, Cke. & Mass.

Sporodochiis gregariis, erumpentibus, prominulis, elongato-ellipticis, hysteroformibus (1-2 mm. long,  $\frac{1}{2}$ -1 mm. diam.), compactis, atris; hyphis brevissimis, conidiis sphaeroideis, vel subsphaeroideis, continuis, olivaceis (7-8  $\mu$  long).

On denudated branches. Brisbane. (Bailey, 635.)



**Hypoxyton (Placoxylon) ellipticum, Cke. & Mass.**

Parallelum, ellipticum (3.5 × 2 mm.), convexo-planum, atrum, opacum, intus concolorum. Ostiolis minutis, congestis, punctiformibus. Ascis cylindraceis. Sporidiis fusiformibus, continuis, fuliginosis, primitus nucleatis (23-25 × 6-7  $\mu$ ).

On decorticated wood. Brisbane. (Bailey, 631.)

Allied to *H. allantoideum*, but differing in fruit and in more distinct ostiola.

**Uromyces phyllodii, Cke. & Mass.**

Maculis ellipticis, bullatis, fuscis; soris minutis, orbicularibus, congestis, compactis, brunneis, demum nudis, nec pulverulentibus, (maculis 3-5 mm. long). Uredosporis nondum vidi. Teleutosporis ellipticis, obtusis, rarius apiculatis, fuscis; episporio minute verruculoso, crassiusculo, hyalino, ad apicem incrassatis (40-45 × 16-18  $\mu$ ).

On phyllodes of *Acacia*. Brisbane. (Bailey, 643.)

Resembling in some particulars *Uromyces fusisporum*, C. & M., but differing in the sori being crowded on bullate spots, in their brown colour, and in the form of the broader teleutospores.

## THREE NATAL FUNGI.

By M. C. COOKE.

**Agaricus (Schulzeria) umkowaani, Cke. & Mass.**

Pileo carnoso, hæmispherico, explanato, sicco, minute granuloso, albido (3-4 unc. lato), stipite fusiformi-radicato (12-16 unc. long,  $\frac{1}{2}$  unc. crass), solido, glabro, concolori; lamellis liberis, postice attenuatis, confertis, sublatiis, albis, sporis ellipticis, 10 × 4-5  $\mu$ . Edulis.

On the ground. D'Urban. (Wood, 4060.)

Two-thirds of the stem rooting in sand.

"Called 'Umkowaan' by the natives, and is delicious when cooked, much superior to the common mushroom."

**Uredo celastrineæ, Cke. & Mass.**

Soris hypophyllis, magnis, bullatis, epidermide tectis, gilvis; uredosporis elongato-ellipsoideis (40-50 × 14-16  $\mu$ ). Episporio crassiusculo, granuloso-verrucoso, hyalino, plasmate aurantiaco.

On living leaves of *Salacia Kraussii*. D'Urban. (Wood, 4028.)

**Æcidium Royense, C. & M.**

Maculis nullis. Hypophyllum, pseudoperidiis gregariis, totius superficies occupantibus, cupularibus, aureis, margine minute serrulato, albo, æcidiosporis concatenatis, quadratis, minute rugulosis, 18-12  $\mu$  diam.

On leaves of *Royena pallens*. Berea. Natal. (Wood, 4078.)

## CRYPTOGAMIC LITERATURE.

BREFELD, O. Untersuchungen der Mykologie, part viii. "Basidiomyceten," iii.

ROLLAND, M. L. Trois nouvelles especes de Discomycetes.

GILLET, C. C. "Hymenomycetes de France," ser. xiv.

BATTERS, E. A. L. Description of three new Marine Algæ, in "Journ. Linn. Society," Dec., 1888.

BURGESS, E. S. Our Fresh Water Algæ, in "American Naturalist," Aug., 1888.

COLLINS, F. S. Algæ from Atlantic City, in "Bull. Torrey Bot. Club," Dec., 1888.

JAMES, J. F. On Development of *Corynites Curtisii*, in "Bull. Torr. Bot. Club," Dec., 1888.

SCRIBNER, E. L., and VIALA, P. Black rot (*Laestadia Bidwellii*), in "Bull. Depart. Agri.," Washington.

RENAULD. Mousses de Maurice, in "Revue Bryologique," No. 6, 1888.

TRELEASE, W. Morels and Puff Balls of Madison, Wis., in "Trans. Wis. Acad. Sci.," Vol. vii., 1888.

MORGAN, A. P. Mycologic Flora of Miami Valley, Ohio, "Hymenomycetes" concluded.

VOGLINO, P. Illustrazione de due Agaricini Italiani.

TRAILL, G. W. Marine Algæ of Elie, in "Trans. Bot. Soc., Edin.," 1888.

TRAILL, G. W. Notes on new and rare Marine Algæ, in "Trans. Bot. Soc. Edin.," 1888.

STEPHANI, F. Westindische Hepaticæ, in "Hedwigia," No. 11, 1888.

PECK, C. H. New North American Fungi, in "Forty-First Annual Report of State Museum."

MULLER, Dr. J. Lichenes Portoricenses, in "Flora," Oct., Nov., 1888.

MULLER, Dr. J. Revisio Lichenum Eschweillerianorum, in "Flora," Nov., 1888.

MULLER, Dr. J. Lichenologische Beiträge, in "Flora," Dec., 1888.

RATTEY, J. Revision of the genus *Auliscus*, in "Journ. Roy. Micr. Soc.," Dec., 1888.

CRISP, F., and Others. Summary of Cryptogamic Literature, in "Journ. Roy. Micr. Soc.," Dec., 1888.

ELLIS, J. B., and EVERHART, B. M. New Species of Fungi, in "Journ. Mycol.," Nov., 1888.

VIZE, J. E. Micro Fungi Britannici, Fasc. 6.

- MARTELLI, U. Sulla fosforescenza dell *Agaricus olearius*.
- FLOWRIGHT, C. B. Monograph of the British Uredineæ and Ustilagineæ.
- SMITH, T. F. Structure of the Valve of *Pleurosigma*, in "Journ. Quek. Micro. Club," Jan., 1889.
- NELSON, E. M. On the Formation of Diatom Structure, in "Journ. Quek. Micro. Club," Jan., 1889.
- OSBORN, H. L. Examination of *Penicillium glaucum*, in "Amer. Mon. Micro. Journ.," Jan., 1889.
- MCARDLE, D. Hepaticæ of Wicklow, in "Journ. of Botany," Jan., 1889.
- MACMILLAN, Rev. H. The Lichens of Inverary, in "Scottish Naturalist," Jan., 1889.
- TRAIL, J. W. H. The Peronosporæ of Orkney, in "Scottish Naturalist," Jan., 1889.
- HANSGIRG, A. Addenda in Synopsis Generum, etc., Mycophycearum, in "Notarisia," No. 13.
- RACIBORSKI, M. Su alcune Desmidiacee lituane in "Notarisia," No. 13.
- PICCONI, A. Noterelle ficologiche, in "Notarisia," No. 13.
- MUELLER, J. Lichenes Spegazziniani in Staten Island, Fuegia, etc., lecti, in "Nuovo Giorn. Bot. Ital.," Jan., 1889.
- MORI, A. Enumerazione dei Funghi della provincie de Modena, in "Nuovo Giorn. Bot. Ital.," Jan., 1889.
- ROUMEGUERE, C. Fungi Gallici exsiccati, Cent. 49.
- BRIARD, Major. Champignons nouveaux de l'Aube, in "Revue Mycologique," Jan., 1889.
- PATOUILLARD, N. Le genre *Coleopuccinia*, in "Revue Mycologique," Jan., 1889.
- FARLOW, W. G. Some new, or imperfectly known, Algæ of United States, No. 1, "Bull. Torr. Club," Jan., 1889.
- BERLESE, A. N. Fungi Moricollæ, Fasc. 6.
- COOKE, M. C. Illustrations of Fungi, parts 66, 67.
- WEST, W. List of Desmids from Massachusetts, in "Journ. Roy. Micro. Soc.," Feb., 1889.
- CASTRACANE, F. Reproduction and Multiplication of Diatoms, in "Journ. Roy. Micro. Soc.," Feb., 1889.

---

NOTICE.—A temporary derangement and breakdown at the plate printers has caused a short suspension of the work on "Illustrations of Fungi," which, it is hoped, will be restored and carried on vigorously next month.

# Brevillea,

A QUARTERLY RECORD OF CRYPTOGAMIC BOTANY  
AND ITS LITERATURE.

## BRITISH PYRENOAMYCETES.

By G. MASSEE.

(Continued from p. 58.)

Fam. 12. CERASTOSTOMEÆ. Perithecia for the most part immersed, or sometimes subsuperficial, rostrate.

GEN. 1. **CERASTOSTOMELLA**. Perithecia rather carbonaceous. Sporidia hyaline.

\* **ROSTRATELLA**. *Sporidia subovoid*.

- C. rostrata*, Fr., *Sacc. Syll.* 1546.  
On rotten wood. Milton, Norths.
- C. cirrhosa*, P., *Sacc. Syll.* 1547; *Hdbk.* 2625.  
On rotten wood. Cotterstock, Lynn, Forden.
- C. ampullasca*, Cke., *Sacc. Syll.* 1549; *Hdbk.* 2628.  
On rotten oak. Shere.
- C. vestita*, S., *Sacc. Syll.* 1550.  
On hard decorticated wood. Shere.
- C. Stevensoni*, B. & Br., *Sacc. Syll.* 1562.  
On rotten wood. Glamis, N.B.

\*\* **LENTOMITA**. *Sporidia uniseptate*.

- C. ligneola*, B. & Br., *Sacc. Syll.* 2285; *Hdbk.* 2627.  
On decayed oak. Somerset, Sydenham, Shrewsbury.
- C. stylophora*, B. & Br., *Sacc. Syll.* 2286; *Hdbk.* 2630.  
On bark of sycamore. Mossburnford, Shere.

\* \* **CERATOSPHERIA**. *Sporidia multiseptate*.

- C. lampadophora*, B. & Br., *Sacc. Syll.* 3681; *Hdbk.* 2629.  
On decayed wood. Coombe Hay, Bath.
- C. crinigera*, Cke., *Sacc. Syll.* 3682.  
On decorticated pine wood. Lynn.

\*\* OPHIOCERAS. *Sporidia filiform, septate.*

*C. bacillata*, Cke., *Sacc. Syll.* 4111; *Hdbk.* 2636.

On decorticated rotten sticks. Shere.

GEN. 2. **CERATOSTOMA**, Fr. Perithecia rather carbonaceous, sporidia coloured.

*C. piliferum*, Fr., *Sacc. Syll.* 786; *Hdbk.* 2626. (= *dryina*, Pers.).

On pine wood.

GEN. 3. **GNOMONIA**. Perithecia submembranaceous, erumpent, ostiolum rostellate; sporidia hyaline.

\* GNOMONIELLA. *Sporidia continuous.*

*G. tubiformis*, Tode, *Sacc. Syll.* 1567; *Hdbk.* 2738.

On dead leaves (alder, hornbeam, &c.). N. Wootton, Shrewsbury, Spye Park, Wilts.

*G. avellanæ*, Sch., *Sacc. Syll.* 1569; *Hdbk.* 2737.

On dead hazel leaves. King's Cliffe, Darenth, Scarboro'.

*G. vulgaris*, Cés., *Sacc. Syll.* 1578; *Hdbk.* 2739.

On hazel leaves. King's Cliffe, King's Lynn, Thirsk, Scarboro', Darenth, Bristol.

*G. devexa*, Desm., *Sacc. Syll.* 1583.

On *Polygonum persicaria*. Lynn.

\*\* MAMIANA. *Perithecia seated on a stroma.*

*G. fimbriata*, Pers., *Sacc. Syll.* 1589; *Hdbk.* 2735.

On leaves of hornbeam. Common.

*G. coryli*, Batsch, *Sacc. Syll.* 1590; *Hdbk.* 2736.

On living leaves of hazel. Darenth, Bexley (Kent); King's Cliffe, Suffolk, Castle Howard (Yorks).

\*\*\* CLOSTERIGNOMONIA. *Sporidia fusoid, uniseptate.*

*G. setacea*, Pers., *Sacc. Syll.* 2204; *Hdbk.* 2740 (in part).

On the petioles, veins, and leaves of various trees, especially *Acer pseudoplatanus*. Wothorpe (Norths.), Hampstead, Neatishead, Darenth, Shere, Lynn, Scarboro'.

*G. inclinata*, Desm., *Sacc. Syll.* 2206; *Hdbk.* 2740 (in part).

On dead leaves of *Acer campestre*. Highgate.

*G. suspecta*, Fckl., *Sacc. Syll.* 2212.

On dead leaves of oak and beech. Shere.

*G. campylostoma*, Auers., *Sacc. Syll.* 2219.

On birch leaves. Carlisle.

*G. petiolicola*, Fckl., *Sacc. Syll.* 2222.

On petioles of sycamore leaves. Highgate, Crystal Palace.

*G. graphis*, *Fckl., Sacc. Syll.* 2225.

On dead leaves of *Rubus fruticosus*. Lynn, Nesscliffe.

\*\*\* SPECIES DUBIÆ.

*G. curvirostra*, *Sow., Sacc. Syll.* 2238 ; *Hdbk.* 2724.

On stem of umbellifer.

*G. ariæ*, *Fckl., F. Rhen., Sacc. Syll.* 877 ; *Hdbk.* 2741.

On leaves of *Pyrus aria*. Darenth.

## SOME EXOTIC FUNGI.

By M. C. COOKE.

### *Lenzites sinensis*, Cooke:

Pileo suberoso-coriaceo, plano (1-2 in.), basi gibbo, glabro, zonato, radiatim rugoso, submargine umbrino, postice saturate purpureo-brunneo, margine acuto, contextu lignicolori ; lamellis tenuibus, rigidis, dichotomis, acie demum laceratis, sordidis dein umbrinis. Spor.  $6 \times 3\frac{1}{2} \mu$ .

On logs. China, Prov. Hupeh. (*Dr. A. Henry*, No. 7926).

Somewhat allied to *L. eximia*, B., but quite distinct and characteristic.

### *Dittola phyllogena*, Cke. & Mass.

Stipitata, ad basim confluent, albo-floccosa, cupula planiuscula, disco læte aureo. Spor. fusiformibus, uniseptatis, demum triseptatis, hyalinis,  $12-13 \times 4-5 \mu$ .

On coriaceous leaves. Castle Bruce. Dominica. (*G. A. Ramage*.)

### *Gaeaster argenteus*, Cooke.

Exoperidio 8-10 fido ( $1\frac{1}{2}$  unc. diam.), laciniis anguste lanceolatis, apice passim bifidis, tenuis, siccitate arcte involutis, extus albidonitidis, intus fuligineo-umbrinis ; endoperidio globoso ( $\frac{3}{8}$  unc.), sessili, glabro, pallido ; peristomio dentato-lacerato capillitio delicato, hyalino,  $4-6 \mu$  diam. Spor. globosis, glabris, pallide fuscis, pellucidis,  $4 \mu$  diam.

In Saskatchewan. (N.W. Amer. Expl. Exp.)

Allied to *G. floriformis*.

### *Phoma corvina*, Ravenal, No. 588.

Peritheciis globoso-depressis, sub-cutaneo erumpentibus, atris, laxe gregariis, vix papillatis. Sporulis minutis, ellipticis, continuis, hyalinis,  $3 \times 1 \mu$ . *Sphaeria corvina*. Ravenal MSS.

On branches of *Gossypium*. S. Carolina. (*Ravenal*.)

### *Phoma globigera*, Cke. & Mass.

Peritheciis gregariis, numerosis, punctiformibus, atris, sursum nudis, convexis ; sporulis globosis, continuis, hyalinis,  $5-6 \mu$  diam.

On twigs of *Vitis vinifera*. (*Mende*.)

**Cladosporium epibryum, Cke. & Mass.**

Cæspitulis minutissimis, atris. Hyphis simplicibus, brevibus, flexuosis, septatis, olivaceis, superne pallidioribus; conidiis ellipticis, utrinque rotundatis, uniseptatis, medio constrictis, pallide fuscis, hyalinis,  $18-20 \times 10-12 \mu$ .

On capsules of various mosses. United States. (*Mrs. E. G. Britton.*)

**Pleospora muscicola, Cke. & Mass.**

Peritheciis sphaeroideis, basi applanatis, breve papillatis, nigris, subnitidis, lævibus. Ascis clavatis, octosporis, brevissime stipitatis; sporidiis distichis, ellipsoideis, utrinque rotundatis, medio constrictis, 5-7 septato-muralibus, saturate fuligineis,  $30-35 \times 12-15 \mu$ .

On *Bryum pendulum*. Dumb-bell Bay,  $82^{\circ}$  N. (*Capt. Fielder.*)

The upper half of the sporidium is broader than the lower in the majority of cases. The colour is sometimes so dark as to be almost opaque.

ON ERYSIPE POLYCHÆTA, B. & C., AND UNCINULA  
POLYCHÆTA, B. & C.

The above species, although first described only a dozen years ago, have, owing to various reasons, been plunged into a state of uncertainty quite on a par with the microscopic species of old authors. Both species are described by Berkeley, as quoted below, in "*Grevillea*," Vol. iv., p. 159 (1876), each being followed by a fuller description drawn up from the *type specimen*.

"*Erysiphe polychæta*, B. & C.—Maculis orbicularibus; appendicibus brevibus plurimus rectis; ascis elongatis clavatis. On leaves of *Celtis*. Alabama. Peters, No. 3876. Spots orbicular, yellow-brown in the centre, from the young perithecia; appendages about equal to their diameter, straight; asci elongated, clavate." —"*Grev.*," Vol. iv., p. 159.

Hypophyllous, spots dense, whitish, perithecia generally numerous, brownish, becoming black, subdepressed,  $250-300 \mu$  diam., appendages numerous, 200 or more, colourless, simple, when young perfectly straight, when fully developed more or less involute at the tips, which are attenuated at all stages; asci about 50, subcylindrical and abruptly attenuated at the base into a slender pedicel, constantly bisporous; spores smooth, colourless, simple, cylindrico-ellipsoid,  $26-30 \times 11-14 \mu$ . (Type in Herb. Berk., Kew, No. 10543.)

It will be seen from the above full description that Berkeley had drawn up his diagnosis from a young perithecium having the appendages yet straight.

"*Uncinula polychæta*, B. & C.—Peritheciis sparsis; appendicibus multis. On leaves of *Celtis occidentalis*. Car., No. 5619. Perithecia scattered; appendages about 28,  $1\frac{1}{2}$  longer than the diameter of the perithecia, hyaline."—"Grev.," Vol. iv., p. 159.

Hypophyllous, mycelium very scanty, not forming spots; perithecia scattered, usually not more than two or three on a leaf, 150–200  $\mu$  diam., appendages 25–28, simple, colourless, very slender, about  $300 \times 2\text{--}3 \mu$ . Apices strongly involute, not at all incrassated; asci about 25, cylindrico-clavate, tetrasporous; spores colourless, simple, elliptic-oblong,  $20 \times 10 \mu$ . (Type in Herb. Berk., Kew, No. 10588.)

The fact of both species being met with on leaves of *Celtis* and both having the same specific name has apparently led to the idea that the two species are identical, and the difficulty is not lessened by the species described as *Erysiphe polychæta*, B. and C., being issued in Ravenel's Fung. Car. Exs. iv., No. 68, as *Uncinula polychæta*, B. & C., which appears, and with reason, to have been accepted as the species described by Berkeley under the last name, which is not the case. In "Michelia," ii., p. 373, Saccardo established a new genus, *Pleochæta*, from specimens collected by Spegazzini at Buenos Ayres, and described by the latter as *Uncinula Lynckii*, Speg., Fung. Arg. Pug. ii., p. 17. These specimens were considered to be identical with the *Uncinula polychæta*, B. & C., as published by Berkeley, *Erysiphe polychæta*, B. & C., being given as a synonym, and the whole included under the name of *Pleochæta Curtisii*, Sacc. and Speg. The genus *Pleochæta* is kept up by Saccardo in the "Sylloge," Vol. i., p. 9, with the following remarks after the generic diagnosis:—"Setis creberrimis, rectis, contextu peritheciis subcoriaceo, ascis teretiusculis, etc., ab *Erysiphe* et *Uncinula* dignoscitur." In the "Journal of Mycology," 1886, p. 43, Ellis shows that Spegazzini's South American specimens are identical with *Uncinula polychæta*, B. & C., of Ravenel's Fung. Carol. Exs. iv., No. 68 (= *Erysiphe polychæta*, B. & C., "Grev.," Vol. iv., p. 159). Ellis endeavoured to reconcile the specimens in Ravenel's Exs. quoted above with the description of *Uncinula polychæta*, B. & C., as follows:—"Possibly the statement that the number of appendages is 'about 28' is a typographical error for 'about 228,' which would be nearer the actual number."

In his *Additamenta* to the first four volumes of the "Sylloge," Saccardo adds considerably to the confusion by still keeping up the genus *Pleochæta*, and giving a revised diagnosis of *P. Curtisii*, Sacc. and Speg., the only species in the genus, which is a translation of the one given by Ellis in the "Journal of Mycology," as quoted above, and is as follows:—"Appendicibus numerosis circ. 200, hyalinis, continuis, apice attenuatis, et incurvatis ornata." It is generally admitted that in the group of Fungi under consideration the perithecial appendages constitute an important factor in



the discrimination of genera. Nevertheless, as pointed out by Cooke in "Grevillea," Vol. xi., p. 35, we have, in the present instance, a genus established by Saccardo, the leading character of which consists in the *straight* appendages. The genus includes a single species, the appendages of which are described as *incurved*. It may safely be accepted that there is no such genus as *Pleochæta* in nature, *Pleochæta Curtisii*, Sacc. and Speg., being a true *Uncinula*. Finally, S. M. Tracy and B. T. Galloway, in the "Botanical Gazette," Vol. xiii., p. 29, in an article headed "*Uncinula polychæta*, B. & C.," say:—"Although this species has been known for more than ten years it is believed that an attempt to reconcile the differences in published descriptions, with the addition of such facts as have been noted in a recent examination of fresh specimens collected on Sand Creek, five miles east of Starkville, Miss., will be of interest to mycologists." The specimens collected five miles east of Starkville by the last-mentioned authors agree in many points with *Erysiphe polychæta*, B. & C., and may possibly be the same species, but the authors' idea of reconciliation with *Uncinula polychæta*, B. & C. (not "*Uncinula pleochæta*"), is on a par with that of Ellis, and is as follows:—"Berkeley & Curtis," "about 28" probably being a misprint for "about 280." It is curious to note that in every instance where an *Uncinula* has been met with on *Celtis* it has been considered as the *U. polychæta* of B. & C., and that any discrepancy between the characters presented and Berkeley's brief description was due to the author's inaccuracy, whereas in reality there are two species of *Uncinula* on the same species of *Celtis*, the synonymy of which are as follows:—

1. *Uncinula polychæta* (B. & C.), Massee (= *Erysiphe polychæta*, [B. & C.], Grev., Vol. iv., p. 159; *Pleochæta Curtisii*, Sacc. & Speg., Fung. Arg. Pug. ii., p. 44; Sacc. Syll., Vol. i., No. 32; Sacc. Addit., No. 32 (in part). *Uncinula polychæta*, Rav. Fung. Carol. Exs., fasc. 4, No. 68.

2. *Uncinula confusa*, Massee (= *Uncinula polychæta*, B. & C.), Grev., Vol. iv., p. 159; *Pleochæta Curtisii*, Sacc. and Speg., Fung. Arg. Pug. ii., p. 44; Sacc. Syll., Vol. i., No. 32; Sacc. Addit. Syll., No. 32 (in part).

As *Erysiphe polychæta*, B. & C., has been shown to be a true *Uncinula* and is the commonest species, in addition to being already known as *Uncinula polychæta*, the original specific name has been retained. As to priority, it is not a matter of dates, but only of standing higher on the same page than *Uncinula polychæta*, B. & C., the specific name of which has been changed as above.

GEORGE MASSEE.

## NEW BRITISH FUNGI

BY M. C. COOKE.

(Continued from p. 56.)

**Puccinia Schröteri**, Pass. Sacc. Syll. VII., 2579.

On living leaves, &amp;c., of jonquil. C. W. Dod, Esq., Edge Hall, Malpas.

**Conisphaeria (Melanopsamma) borealis**, Karst., var. *minor*.Perithecia scattered or gregarious, very small, innate at the base, convex above, black, smooth, slightly papillate. Asci cylindrical; sporidia uniseriate, narrowly ellipsoid, 2 guttulate, then faintly uniseptate, hyaline,  $6 \times 2\frac{1}{2} \mu$ .

On rotten wood. Shere. (Dr. Capron.)

**Ceratostomella vestita**, Sacc. Syll. 1550.Perithecia scattered, subsuperficial, globose, loosely clad with intertwined flexuous septate hairs, naked about the cylindrical ostium, which is about equal in length to the diameter of the perithecium, and rugose at the apex. Asci cylindrical, shortly stipitate. Sporidia uniseriate, ellipsoid ( $6.8 \times 4 \mu$ ) continuous, biguttulate, hyaline.

On rotten wood. Shere. (Dr. Capron.)

**Pleospora Meliloti**, Rabh., Sacc. Syll. 3727.var. **Medicaginis**, Cke. & Mass.Sporidia muriform, 5 septate, muriform brown,  $40 \times 15 \mu$ .On stems of *Medicago sativa*. Kew.**Pleospora herbarum**, Pers., Sacc. Syll. 3730.var. **Cichorii**, Cke. & Mass.Sporidia 7 septate, muriform, about  $40-43 \times 14-16 \mu$ , pale olive.On stems of *Cichorium intybus*. Kew.**Phoma cyclospora**, Sacc. Syll. 837.On *Euphorbia salicifolia*. Kew.**Phoma Barringtoniae**, Cke. & Mass.Epiphyllous, on large irregular glaucous spots. Perithecia convex, papillate, subgregarious, black, covered with the thin shining cuticle. Sporules fusoid-elliptic, with a nucleus at each end, continuous, hyaline,  $13-15 \times 4-5 \mu$ .On living leaves of *Barringtonia speciosa*. Kew.**Diplodina glaucii**, Cke. & Mass.Perithecia minute, scattered, globose, black, covered by the epidermis, which is at length pierced by the papillate ostium. Sporules elliptical, obtuse, scarcely constricted, uniseptate, hyaline,  $12-13 \times 3 \mu$ .On dead stems of *Glaucium fulvum*. Kew.

***Mycogone alba*, Letell Champ. t. 667, f. 2.**

This mould, which spreads over the whole surface of cultivated mushrooms, is a true *Mycogone*, the conidia of which closely resemble those of *M. rosea*. There is no rosy tint, and it may possibly be referred to Letellier's species, of which there is no description, and the figure is very unsatisfactory. Doubtless an imperfect (conidial) condition of some undescribed *Hypomyces*.

On mushrooms. Wynyard, Stockton-on-Tees. (*H. E. Gribble*.)

***Gliocladium agaricinum*, Cke. & Mass.**

Causing the pileus of mushrooms to crack into large frustular scales. Tufts hemispherical, sometimes confluent, pallid, growing white, at first gelatinous. Hyphæ creeping, branched, fertile branches erect, ultimate branchlets verticillate, quaternate, capitulum of conidia subglobose, white. Conidia at first glutinous, subglobose, hyaline,  $5.6\ \mu$  diam.

On cultivated mushrooms. Leicester.

***Bispora pusilla*, Sacc. Syll. VII., No. 1633.**

On chips. Kew.

***Tubercularia minor*, Link, forma *Syringæ*, C. & M.**

Minute, erumpent, horn-coloured, then flesh colour or reddish, shining, gelatinous when moist, stroma readily falling away, when mature, leaving cup-like pits; conidia oblong, straight, rounded at the ends,  $10 \times 2\ \mu$ . Sporophores simple.

On twigs of lilac. Kew.

***Pionnotes Bissiolettianum*, Corda Sc. II., f. 14.**

Polymorphous or effused, between fleshy and tremelloid, thick, orange. Stroma fleshy, whitish, floccose; hyphæ septate, simple or sparingly branched, fasciculate, stratum of conidia rather thick, gelatinous, orange-red, viscid; conidia fusiform, acuminate at each end, slightly curved, granular within, then obsoletely 2-5 septate,  $60-70 \times 4-5\ \mu$ .

On wild rose stems. Reading. (*Dr. Carlyle*.)

---

## BRAITHWAITE'S BRITISH MOSS FLORA.

We are very glad to see the first part of the second volume of this invaluable work. Part XI. contains the first part of Grimmiaceæ, and is fully up to all that have preceded it in excellence. The plates, which have now reached to Pl. LIII., are excellent. If we feel any regret—and we cannot help feeling it in common with bryologists—it is that the publication does not proceed more rapidly. On this point we have been assured that no effort has been wanting to secure greater expedition, and that these efforts will not be relaxed. We, who are growing old, sometimes fear that, in the natural course of things, we shall scarcely live to see the end; let us hope that we shall be disappointed.

## TWO AUSTRALIAN FUNGI.

BY M. C. COOKE.

The following specimens communicated by Baron F. von Mueller.

\* ***Asterina (Asterella) subcuticulosa***, *Cooke*.

Epiphylla. Peritheciis pelliculosis, applanatis, irregularibus, vel confluentibus, absque mycelio, atris, sublente fuscis. Ascis pyriformibus. Sporidiis elliptico-clavatis, uniseptatis, hyalinis, celluloso superiori latiore (circa  $10-12 \times 4 \mu$ ).

On fading and dead leaves of *Olearia argophylla*. Gippsland. (*Luehmann*.)

\* ***Xylaria (Xyloglossa) agariciformis***, *Cke. & Mass.*

Capitulum semiglobose (8 mm. to 1 cm. diam.), glaucous, dotted with the black punctiform ostiola, truncate, or depressed, beneath black and sterile, so as to leave a barren black ring round the stem. Stem equal, or a little attenuated downwards, 2-3 mm. thick, 1 inch or more long, straight or flexuous, fuliginous. Asci cylindrical. Sporidia uniseriate, elliptical, rounded, or a little attenuated at the ends, at first binucleate, then opaque and dark brown,  $23-25 \times 6-8 \mu$ .

On stumps. Eyre's Sandpatch. Great Bight. (*J. D. Baff*.)

---

HEREFORDSHIRE FLORA.\*

After being in the printer's hands for about two years this Flora has at last made its appearance. How we pity the poor Editors and Authors who are at the mercy of local printers. A worthy scene for Dante's "Inferno." Nevertheless, it is welcome at last; whether improved by its vicissitudes it is hardly possible to say. Poor Dr. Bull! Had he been alive to pass through this last experience we fear it would have disturbed his equanimity, if it had not hastened his end. "At Last" was Charles Kingsley's last book, and at last Dr. Bull's long-cherished hope of a Herefordshire Flora is now accomplished. It is a big volume, and a neat one, of which the Woolhope Naturalists' Field Club need not to feel ashamed, for this Club is responsible for the cost of its production.

A volume of 550 pages, and a map, represents a considerable amount of voluntary labour, and the two clergymen whose names appear on the title page accept responsibility for the contents. After the preface comes a long "Definition of the Botanical Districts of Herefordshire," by the Rev. W. H. Purchas, with "Notes on their Geology," by the Rev. W. S. Symonds. Then follows the

\* "Flora of Herefordshire." Edited by W. H. Purchas and Augustin Ley. One Vol., 8vo., cloth. Hereford: Jakeman and Carver (for the Woolhope Naturalists Field Club). 1889.

Flora, with 367 pages devoted to the Phanerogamia, then 75 pages of mosses, 70 pages of catalogue of the Fungi, and some few pages of supplementary matter, and the Indices.

It is neither our province, nor our intention, to express any opinion on the portion devoted to the Phanerogamia, in which 903 species are recorded, inclusive of the Ferns. The mosses, to the number of 283 species, doubtless came under the fatherly care of the Rev. Augustin Ley, and there is little room for doubt that this portion of the work is thoroughly trustworthy. The Fungi, rather a speciality with the Woolhope Club, attain to some 1,097 species, contrasting favourably with the 445 species recorded in the "Flora of Leicestershire" (1886), and the 987 of the "Flora of West Yorkshire" (1888). In this portion the Hymenomycetes were catalogued by M. C. Cooke, from lists and drawings left by the late Dr. Bull, and from notes and drawings made by himself during the period of the various annual forays. The list of Discomycetes was furnished by W. Phillips, F.L.S., whilst C. B. Plowright lent his ready assistance with the Uredines and the Pyrenomycetes. Only one of these sections makes any reasonable approach to completeness, viz., that of the Hymenomycetes. The minute fungi have been only casually recorded, and nothing like a systematic attempt has ever been made to investigate the microscopic fungi of Herefordshire; consequently, with the exception of the Discomycetes, the lists are most imperfect and incomplete. At the annual forays and exhibitions all the interest has centred in the larger fungi, and this portion may be taken to represent fairly well what has been found and recorded in the county. It may be of interest to compare the number of species of the Hymenomycetes recorded for Herefordshire, namely, 636, with the 499 species recorded for the same order in the "Flora of West Yorkshire," and 299 recorded in the "Flora of Leicestershire." These numbers cannot be compared with those of Epping and Essex generally, since the Essex lists are so far behindhand in publication, notwithstanding that the Field Club has a monthly journal of its own. We fancy it may be taken for granted that Herefordshire stands at the head of all English Counties in the number of species of Agarics which have been found within its borders. It is not surprising that some of these should still remain so identified with the county that they have not been observed elsewhere in the British Isles. Such, for instance, as *Lactarius lilacinus*, found at Sunny Gutter, on one occasion rather freely; *Hygrophorus erubescens*, from Downton; *Cortinarius triumphans*, from Dinmore; *Agaricus (Pholiota) Cookei*, described by Fries from specimens collected at Dinmore; *Agaricus (Inocybe) hæmactus*, B. & C., only found, as yet, at Credinhill; *Agaricus (Naucoria) rubricatus*, Berk., known only from Holme Lacy; *Agaricus (Hypholoma) ædipus*, C., discovered at Clehanger; not forgetting *Agaricus (Pholiota) aureus* var. *Herefordiensis*; and last, but not least, the redoubtable *Strobilomyces strobiliaceus*, so often found within the county.

Presumably it was inevitable that more instances than agreeable should be met with of literal errors in the printing of specific names, notwithstanding the care exercised with a view to preventing it. There are some letters which the ordinary compositor seems to delight in turning the wrong side up, and this persistency is observable here and there.

Taken as a whole, we presume that the present Flora will be accepted as generally satisfactory, notwithstanding the absence of any records of the *Hepaticæ*, Lichens, and the Fresh Water Algæ, the former being particularly remarkable, as they are often collected and studied by bryologists. In the preface these omissions are alluded to in the following terms:—"It is with much regret that we have to omit all account of the *Hepaticæ* in this Flora. '*Ars longa*,' and though some considerable material has been gathered towards an account of the Herefordshire *Hepaticæ*, chiefly by the labours of Mr. B. M. Watkins, yet the whole subject remains as yet too incomplete to justify publication. We do not know, beyond the work done as mentioned above by Mr. Lees in the Malvern District, anything has yet been attempted in the County of Hereford as regards Lichens or Algæ."

The general appearance of the work is good, the type clean and clear, and the arrangement suitable for ready reference. We may have seen better paper employed, even for a County Flora, but that is a matter of detail. Certainly it is to be hoped that the Woolhope Club will not be pecuniary sufferers by this praiseworthy effort, and that it will soon be reimbursed the whole outlay in the production of this volume.

### CHAMPIGNONS DE LA FRANCE.

We approach a somewhat unwelcome task in noticing, rather critically, the later Plates issued by Capt. Lucand, in his large quarto "*Figures peintes de Champignons de la France*," which, as we have before observed, are intended as a continuation of the celebrated Plates of "*Bulliard's Champignons de la France*." The present work has now reached its eleventh part and the 275th Plate, and costs no less than £16 10s. 0d., which is *double* the published price of the 292 Plates given in the first two volumes of another work on "*The Fungi of Britain*," published in this country. Although the paper is larger in the French work, the *paper* is all that is furnished for the extra money. Undoubtedly there is no advantage given in artistic execution, nor do we think in scientific accuracy, but on these points our opinion may be supposed to be a prejudiced one.

Let us, however, confine ourselves to the 25 Plates included in this present Part XI., commencing with Plate 251, *Lepiota naucina*, Fries. Beneath this Plate there are synonyms given, or presumed synonyms, which are rather extraordinary, and

somewhat shock our insular prejudices. "*Agaricus pudicus*, Bull., t. 597; *Pholiota*, of Fries; *Ag. Schulzeri*, Kalchb., t. 2, f. 2."

As to the identity of *Ag. Schulzeri*, Kalchb., with *Ag. naucinus*, Fries, we will not presume to decide, as we have never seen *Ag. Schulzeri*; but, supposing it to be true that this species has ovate spores, whilst *Ag. naucinus* has globose spores, then the identity must be open to question. Far more widely distinct must be *Ag. pudicus*, Bull., and *Ag. naucinus*, Fr. Most mycologists, except the gallant Captain, recognize some points of difference between the elliptical brown spores of *Ag. (Pholiota) pudicus*, and the globose white spores of *Ag. (Lepiota) naucinus*. It comes as quite a revelation that the synonyms of some of the *Leucospori* must be sought amongst the *Dermini*. This is cutting down "spore-classification" with a vengeance. Adverting to the figures, given on Plate 251, it is rather singular that the longitudinal section exhibits the stem as *solid*, whilst the transverse section shows it *hollow*. Are both equally accurate?

The next Plate, 252, is devoted to *Tricholoma panæolum*, Fries, whilst the romantic letter-press indicates as synonyms *Ag. nimbatum*, Batsch., f. 65, and *Tricholoma ectypum*, Gillet, p. 124, and of Secretan, but not the *Agaricus ectypus*, Fries, which should have been made clear. May it not be taken for granted that it is prudent to ignore such synonymy altogether, and just accept the Plates for what they are worth?

*Russula depallens*, on Plate 261, is not exactly the sort of *Russula depallens* that we have been accustomed to see. We like to note the distinctly rugose grey stem, which seems so persistent in nature, but requires a very strong lens to detect in the figures. Nevertheless "variety is charming."

Of all the hallucinations with which many of the French mycologists seem to be infected, there is no one so persistent as that figured on Plate 272 as *Cortinarius torvus*, Fries. Surely the figures given by Fries, in his *Icones* (t. 157, Fig. 1), should have convinced Dr. Quelet that his notion of *Cortinarius torvus* is no longer tenable. Yet the same ghost arises from the grave in this Plate, figured from specimens communicated by Quelet. The Rev. M. J. Berkeley long ago declared the French drawings of this species (those by Quelet, Boudier, and others) to be none other than his own, *C. anfractus*, which was not the *C. anfractus*, Fries, and has been figured in Cooke's *Illustrations*, Plate 707, under the name of *Cortinarius Berkeleyi*. It seems to be an absurd manifestation of obstinacy to persist in calling a species by a name with which it has no immediate affinity, and to which it is not entitled. If for nothing else, the dark-coloured flesh of *Cort. torvus*, as exhibited in Fries' own figures, should raise a suspicion of this impostor, with white flesh, to say nothing of the volvate patches on the pileus. Whatever else it may be, no mycologist in his senses could contend that Plate 272 represents the *Cortinarius torvus*, of Fries.

Generally, as applied to all the Plates, we should like to discover the value of a series of symmetrically arranged little bodies, which may be supposed to represent spores, but which, if drawn to any scale at all, the scale is not revealed, and very seldom is any intimation given of their dimensions.

It is much to be regretted that our author did not from the first obtain the assistance of a good practical man in the art of delineation, to have advised with him, and assisted him in his work. There is no doubt that a large amount of labour and experience has not been turned to the best account, and that a little advice might have converted a very mediocre into a very excellent work. It requires but a very little elementary knowledge of illustrative art to recognize the failings in these Plates, and at the same time to marvel that the little artistic help was not obtained which would have spared the credit of the author, and augmented the sale of his work, which, in all conscience, is expensive enough for a much better book.

## SYNOPSIS PYRENOMYCETUM.

(Continued from p. 52.)

*Fam. 13. ENDOXYLEÆ (IMMERSE, Fr.).* Perithecia immersa, latentia, simplicia, collo brevi erumpente.

GEN. 1. **ENDOKYLA**, *Fckl.* Stroma obsoletum ligneum, sporidia allantoidea, dilute fusca.

3918. parallela, *Fr.* ... 672    3920. macrostoma, *Fckl.* 674  
3919. operculata, *A. & S.* 673    3921. populi, *Rom.* ... 6284

GEN. 2. **XYLOSPHAERIA**, *Cooke Grev. VII., 86.* Perithecia innata, immersa, lignicola. Sporidia subelliptica, continua, vel septata, fusca.

\* **ANTHOSTOMA.** *Sporidia continua, fusca.*

3922. melanotes, <i>B. &amp; Br.</i> 1097	3932. polynesia, <i>B. &amp; C.</i> 1110
= <i>Schmidtii</i> , <i>Nke.</i>	3933. chronostomum, <i>Sp.</i> 6329
<i>var. longiascum, Berl.</i>	3934. carbonescens, <i>Nke.</i> 1111
3923. endoxyloides, <i>Mont.</i> 7436	3935. anceps, <i>S. &amp; R.</i> ... 1115
3924. tomentosum, <i>Ehr.</i> 1098	3936. tuberculosa, <i>Schwz.</i> 4368
3925. ferrugineum, <i>Nke.</i> 1099	3937. defossum, <i>D.R. &amp; M.</i> 1117
3926. venetum, <i>Sacc.</i> ... 1100	3938. cubiculare, <i>Fr.</i> ... 1118
3927. urophorum, <i>S. &amp; S.</i> 1101	3939. ostropoides, <i>Rehm.</i> 1131
3928. areolatum, <i>Nke.</i> ... 1103	3940. syciospermum, <i>D.R.</i>
3929. inquinans, <i>Nke.</i> ... 1106	<i>&amp; M.</i> ... 1119
3930. italicum, <i>S. &amp; S.</i> ... 1107	3941. sustentum, <i>Plov.</i> 1120
3931. intermedium, <i>Nke.</i> 1108	3942. gigaspora, <i>Cke. &amp; Hk.</i> 6531



3943. oxyacanthæ, <i>M.</i> ...	1121	3950. ambiguum, <i>Fab.</i> ...	5934
3944. xylostei, <i>Pers.</i> ...	1122	3951. infernale, <i>Fab.</i> ...	5935
3945. alpigena, <i>Fckl.</i> ...	1123	3952. saprophilum, <i>Ell. &amp; Ev.</i>	
3946. hiascens, <i>Fr.</i> ...	1125	3953. picacea, <i>C. &amp; E.</i> ...	1093
3947. decipiens, <i>D.C.</i> ...	1126	3954. brachystoma, <i>Ell.</i>	
3948. scoriadea, <i>Fr.</i> ...	1127	& <i>Ev.</i> ...	6325
3949. mortuosum, <i>Ell.</i> ...	5933		

**\*\* PHÆOSPERMA.** *Sporidia didyma fusca.*

3955. anserina, <i>Pers.</i> ...	2842	3962. botulispora, <i>M.</i> ...	2719
3956. cariei, <i>Sacc.</i> ...	2843	3963. dichroa, <i>D. R. &amp; M.</i>	2730
3957. Saccardiana, <i>Sp.</i> ...	2844	3964. fibricola, <i>S.</i> ...	2748
3958. apiculata, <i>Curr.</i> ...	2845	3965. tumulata, <i>Cke.</i> ...	2751
3959. hysterioides, <i>Rehm.</i>	2850	3966. diplasia, <i>D. R. &amp; M.</i>	2758
3960. Wellingtoniæ, <i>C. &amp; H.</i>		3967. anceps, <i>S. &amp; B.</i> ...	6616
...	6615	3968. rosmarinæ, <i>Cast. Cat.</i>	165
3961. sepulta, <i>M.</i> ...	2718		

**\*\* KALMUSIA.** *Sporidia 3-multiseptata, fusca.*

3969. ebuli, <i>Nsl.</i> ...	3373	3974. surrecta, <i>Cooke</i> ...	3380
3970. dealbata, <i>S.</i> ...	3374	3975. rubro-nigra, <i>Cke.</i>	
3971. hemitapha, <i>B. &amp; Br.</i>	3375	<i>Trans. R. S. Edin.</i>	
3972. hypotephra, <i>B. &amp; Br.</i>	3377	3976. Passerinii, <i>Rabh.</i>	3376
3973. inusta, <i>Cooke</i> ...	3378	3977. pachyascus, <i>C. &amp; E.</i>	3379

**GEN. 3. THYRIDIUM.** *Stroma effusum, ligneum. Sporidia muriformia.*

3978. Rousselianum, <i>S. &amp; S.</i>	3988	3983. ambleium, <i>C. &amp; E.</i>	3993
...	...	3984. colliculus, <i>Cke.</i>	
3979. pulchellum, <i>S. &amp; S.</i>	3989	<i>Trans. R. S. Edin.</i>	
3980. quilmense, <i>Sp.</i> ...	3990	3985. garryæ, <i>C. &amp; H.</i> ...	7122
3981. lividum, <i>Pers.</i> ...	3991	3986. personatum, <i>C. &amp; H.</i>	7124
3982. cingulatum, <i>M.</i> ...	3992	3987. antiquum, <i>Ell &amp; Ev.</i>	7123

*Immersæ dubiæ.*

3988. lævigatum, <i>Schwz.</i>	4354	3989. inundatorum, <i>Sch.</i>	4355
--------------------------------	------	--------------------------------	------

*Fam. 14. OBTECTÆ. Fr. Sum. Veg. Scan. Perithecia corticola, innata, tecta.*

**GEN. 1. MASSARIA, Fr.** *Sporidia matricem plerumque foedantia, muco hyalino obvoluta.*

**\* MASSARIELLA.** *Sporidia bilocularia, fuliginea.*

3990. bufonia, <i>B. &amp; Br.</i>	2705	3995. syconophila, <i>Schulz.</i>	2710
3991. vibratilis, <i>Fckl.</i> ...	2706	3996. scoriadea, <i>Fr.</i> ...	1127
3992. australis, <i>Cke.</i> ...	2707	3997. bispora, <i>Curt.</i>	
3993. sudans, <i>B. &amp; C.</i> ...	2708	3998. seriata, <i>Cke.</i>	
3994. Curreyi, <i>Tul.</i> ...	2709	3999. didymopsis, <i>Mont.</i>	7469

\*\* EUMASSARIA *Sporidia 2-pluriseptata, fusca.*

4000. *foedans*, Fr. ... 2852    4019. *atroinquinans*, B. & C. ... 2870  
     = *amblyospora*, B. & Br. ... 2871  
 4001. *loricata*, Tul. ... 2853    4020. *rhyponia*, M. ... 2871  
 4002. *æsculi*, Tul. ... 2854    4021. *semitecta*, B. & C. ... 2872  
 4003. *pupula*, Fr. ... 2855    4022. *Antoninæ*, Fab. ... 2873  
 4004. *pyxidata*, Reiss. ... 2856    4023. *stipata*, Fckl. ... 2874  
 4005. *urceolata*, Wallr. ... 2857    4024. *alpina*, S. & S. ... 2875  
 4006. *pyri*, Oth. ... 2858    4025. *marginata*, Fckl. ... 2876  
 4007. *corni*, Fr. & M. ... 2859    4026. *Fuckelii*, Ntke. ... 2877  
 4008. *gigaspora*, Fckl. ... 2860    4027. *vomitorea*, B. & C. ... 2878  
 4009. *inquinans*, Tode. ... 2861    4028. *hirta*, Fr. ... 2879  
 4010. *callispora*, Sacc. ... 2862    4029. *macrospora*, Desm. ... 2880  
 4011. *ulmi*, Fckl. ... 2863    4030. *Hoffmanni*, Fr. ... 2881  
 4012. *fagi*, Fckl. ... 2864    4031. *pulchra*, Hark. ... 6644  
 4013. *micacea*, Kunze. ... 6646    4032. *distincta* (Schwz.), Cke. ... 4359  
 4014. *epileuca*, B. & C. ... 2865    4033. *olivacea* (S.), Cke. ... 4353  
 4015. *platani*, Ces. ... 2866       = *olivaceo-hirta*, Schwz.  
 4016. *carpinicola*, Tul. ... 2867    4034. *occulta*, Rom. ... 6642  
 4017. *argus*, B. & Br. ... 2868    4035. *cleistotheca*, Hark. ... 6643  
 4018. *Niessleana*, Rehm. ... 2869    4036. *umbrosa*, Niessl. ... 6645

*Species dubiæ.*

4037. *Gerardi*, Cke. ... 2882    4041. *succincta*, Wallr. ... 2886  
 4038. *squalens*, Fr. ... 2883    4042. *maculata*, Wallr. ... 2887  
 4039. *crypta*, Fr. ... 2884    4043. *conspurcata*, Wallr. ... 2888  
 4040. *protusa*, Fr. ... 2885    4044. *circumscissa*, P. ... 2889

\*\* MASSARINA. *Sporidia bi-v. pluriseptata hyalina.*

4045. *eburnea*, Tul. ... 3390    4050. *corni*, Fckl. ... 3395  
     *var. salicis*, Karst. ... 1017    4051. *rubi*, Fckl. ... 3396  
 4046. *eburnoides*, Sacc. ... 3391    4052. *lunulata*, Tul. ... 3397  
 4047. *tiliæ*, Ph. & Pl. ... 3392    4053. *polymorpha*, Rehm. ... 3398  
 4048. *microcarpa*, Fckl. ... 3393    4054. *Marcucciana*, Awd. ... 3399  
 4049. *coryli*, Karst. ... 3394    4055. *penicillata*, Sacc. ... 3400

\*\* PLEOMASSARIA. *Sporidia muriformia.*† Genuina. *Sporidia muco involuta.*

4056. *siparia*, B. & Br. ... 3708    4058. *carpini*, Fckl. ... 3710  
 4057. *holoschista*, B. & Br. ... 3709

†† Karstenula. *Sporidia muco destituta.*

4059. *rhodostoma*, A. & S. ... 3711    4061. *dumorum*, Mont. ... 7498  
 4060. *varians*, Hazz. ... 3712

GEN. 2. **ENCHNOA**, Fr. *Perithecia pilosa*; *muco destituta*.  
*Sporidia botuliformia, hyalina v. olivacea.*

4062. *infernalis*, Kze. & Fr. ... 372    4065. *Friesii*, Fckl. ... 375  
 4063. *floccosa*, Karst. ... 373    4066. *alniella*, Karst. ... 376  
 4064. *lanata*, Fr. ... 374

GEN. 3. **CRYPTOSPHERIA**, *Grev.* Perithecia densiuscule gregaria.

\* *Sporidia allantoidea*.

- |                                       |   |
|---------------------------------------|---|
| 4067. millepunctata, <i>Grev.</i> 675 | 4073. rimulosa, <i>Pass.</i> ... 681        |
| = <i>pruinosa</i> , <i>Fr.</i>        | 4074. ligniota, <i>Fr.</i> ... 682          |
| 4068. populina, <i>P.</i> ... 676     | 4075. rubrocincta, <i>Schwz.</i> 683        |
| 4069. vicinula, <i>Nyl.</i> ... 677   | 4076. fissicola, <i>C. &amp; E.</i> ... 684 |
| 4070. myriocarpa, <i>Nke.</i> 678     | 4077. vexata, <i>C. &amp; E.</i> ... 685    |
| 4071. sepulta, <i>Nke.</i> ... 679    | 4078. inordinata, <i>B. &amp; C.</i> 686    |
| 4072. ocellata, <i>Fr.</i> ... 680    | 4079. secreta, <i>C. &amp; E.</i> ... 688   |

\*\* CRYPTOSPHERELLA. *Myriospora, sporidia allantoidea*.

4080. Nitschkei, *Awd.* ... 689

GEN. 4. **PHYSALOSPORA**. Perithecia solidiuscula, sparsa, tecta.

\* *Sporidia ovoidea v. oblonga, hyalina*.

- |  |   |
|--|---|
| 4081. corni, <i>Sacc.</i> ... 1659         | 4094. erratica, <i>C. &amp; E.</i> ... 1696 |
| 4082. gregaria, <i>Sacc.</i> ... 1660      | 4095. subsolitaria, <i>Schwz.</i> 1701      |
| 4083. uvæsarmenti, <i>Cke.</i> 6016        | 4096. eriostega, <i>C. &amp; E.</i> 1702    |
| 4084. rosicola, <i>Fckl.</i> ... 1662      | 4097. entaxia, <i>C. &amp; E.</i> ... 1703  |
| 4085. rhodina, <i>B. &amp; C.</i> ... 1663 | 4098. crustulata, <i>Lev.</i> ... 1706      |
| 4086. pustulata, <i>Sacc.</i> ... 1663     | 4099. idæi, <i>Fckl.</i> ... 1710           |
| 4087. euganea, <i>Sacc.</i> ... 1665       | 4100. viscosa, <i>C. &amp; E.</i> ... 1712  |
| 4088. pertecta, <i>Cke.</i> ... 1675       | 4101. thyoidea, <i>C. &amp; E.</i> 1713     |
| 4089. citrispora, <i>B. &amp; Br.</i> 1677 | 4102. ? microtheca, <i>C. &amp; E.</i> 1714 |
| 4090. salicis, <i>Fckl.</i> ... 1678       | 4103. subsimplex, <i>Schw.</i> 1718         |
| 4091. cupressi, <i>B. &amp; C.</i> 1679    | 4104. callunæ, <i>Not.</i> ... 1721         |
| 4092. gelsemiata, <i>Cke.</i> ... 1680     | 4105. nigropunctata, <i>Rom.</i>            |
| 4093. ceanothina, <i>Peck.</i> 1692        | <i>Bot. Not.</i> 1889.                      |

\*\* UROSPORA. *Sporidia caudata*.

4106. cocciferæ, *Fab.* ... 1732

\*\*\* DITOPELLA. *Sporidia numerosa, oblonga v. fusoides*.

- |  |   |
|--|---|
| 4107. fusispora, <i>Not.</i> ... 1735      | 4110. Vizeana, <i>S. &amp; Sp.</i> ... 1738 |
| 4108. cryptosphæria, <i>Fckl.</i> 1736     | 4111. Hosackiæ, <i>C. &amp; H.</i> 1739     |
| 4109. farcta, <i>B. &amp; Br.</i> ... 1737 |   |

GEN. 5. **ENDOPHLEA**, *Fr.* Corticola, sparsa, tecta. Sporidia uni-vel multiseptata.

\* DIDYMELLA. *Sporidia subellipsoidea, uniseptata, hyalina*.

- |  |                                       |
|--|---------------------------------------|
| 4112. cladophila, <i>Nsl.</i> ... 2126 | 4118. vexata, <i>Sacc.</i> ... 2132   |
| 4113. genistæ, <i>Fckl.</i> ... 2127   | 4119. corni, <i>Sow.</i> ... 2133     |
| 4114. glomerulata, <i>Fckl.</i> 2128   | 4120. Barbieri, <i>West.</i> ... 2134 |
| 4115. mesnieriana, <i>Rehm.</i> 2129   | 4121. analepta, <i>Ach.</i> ... 2135  |
| 4116. applanata, <i>Nsl.</i> ... 2130  | 4122. Picconii, <i>Not.</i> ... 2136  |
| 4117. sphærellula, <i>Pech.</i> 2131   | 4123. lapponum, <i>Not.</i> ... 2137  |



GEN. 7. **ANTHOSTOMA.** Sporidia continua, fusca.\* ANTHOSTOMELLA. *Sporidia continua, fusca.*

4179. clypeata, <i>Not.</i> ... 1051	4187. unedonis, <i>Not.</i> ... 1058
4180. conorum, <i>Fckl.</i> ... 1052	4188. corni, <i>Fab.</i> ... 5927
4181. pholidigena, <i>Ell.</i> ... 6320	4189. scopariæ, <i>Fab.</i> ... 5928
4182. nitidula, <i>Sacc.</i> ... 1053	4190. ilicis, <i>Fab.</i> ... 5929
4183. limitata, <i>Sacc.</i> ... 1055	4191. helichrysi, <i>Fab.</i> ... 5930
4184. olearum, <i>S. &amp; S.</i> ... 1056	4192. Picconiana, <i>Not.</i> ... 5931
4185. ostiolata, <i>Ell. &amp; Ev.</i> 6322	4193. oreodaphnes, <i>C. &amp; H.</i> 6321
4186. intermedia, <i>Sacc.</i> ... 1057	

\*\* ENTOSORDARIA. *Sporidia appendiculate.*

4194. perfidiosa, <i>Not.</i> ... 1062	4197. umbrinella, <i>Not.</i> ... 1066
4195. Poetschii, <i>Nsl.</i> ... 1063	4198. closterium, <i>B. &amp; C.</i> 1067
4196. appendiculosa, <i>B. &amp; Br.</i> ... 1064	4199. Rehmii, <i>Thum.</i> ... 1075

## \*\*\* DESCISCENTES.

4200. genistæ, <i>Crouan.</i> 1077	4204. paliuri, <i>Fab.</i> ... 1086
4201. abdita, <i>B. &amp; C.</i> ... 1078	4205. delitescens, <i>Not.</i> ... 1087
4202. cytisi, <i>Fckl.</i> ... 1079	4206. nobilis, <i>S. &amp; S.</i> ... 1088
4203. loniceræ, <i>Fckl.</i> ... 1080	4207. picacea, <i>C. &amp; E.</i> ... 1093

\*\* ANTHOSTOMA. *Pseudo-stromatica, sporidia continua.*

4208. anceps, <i>S &amp; R.</i> ... 1115	4211. xylostei, <i>P.</i> ... 1122
4209. syciospermum, <i>D. R. &amp; M.</i> ... 1119	4212. alpigenum, <i>Fckl.</i> 1123
4210. oxyacanthæ, <i>M.</i> ... 1121	4213. hederæ, <i>Fckl.</i> ... 1124
	4214. scoriadeum, <i>Fr.</i> ... 1127

GEN. 8. **DIDYMOSPHERIA.** Sporidia didyma, fuliginea.\* *Perithecia membranacea.*

4215. conoidella, <i>S. &amp; B.</i> 6573	4227. dochmia, <i>B. &amp; Br.</i> 2664
4216. oxycedri, <i>Fab.</i> ... 2653	4228. permutata, <i>Sacc.</i> ... 2665
4217. scabella, <i>Quel.</i> ... 7562	4229. gregaria, <i>Speg.</i> ... 2666
4218. bacchans, <i>Pass.</i> ... 2654	4230. rubifruticosi, <i>Cr.</i> 2667
4219. rhamni, <i>Fab.</i> ... 2655	4231. betulæ, <i>Nsl.</i> ... 2668
4220. trivialis, <i>B. &amp; Br.</i> 2658	4232. massarioides, <i>Sacc.</i> 6110
4221. sarmenti, <i>C. &amp; H.</i> 6574	4233. lycii, <i>Kalch.</i> ... 6116
4222. vitis, <i>Fab.</i> ... 2659	4234. cupula, <i>Ell.</i> 6112, 6581
4223. cerasorum, <i>Fr.</i> ... 2660	4235. ceanothi, <i>C. &amp; H.</i> 6587
4224. incarcerationi, <i>Desm.</i> 2661	4236. sarmentorum, <i>Nsl. Æst.</i>
4225. genistæ, <i>Fckl.</i> ... 2662	<i>Bot. Zeit. (1875)</i>
4226. celata, <i>Curr.</i> ... 2663	

\*\* MICROTHELIA. *Circa ostiolum nigrificata.*

4237. epidermidis, <i>Fr.</i> ... 2677	4241. opulenta, <i>Not.</i> ... 2684
4238. albescens, <i>Nsl.</i> ... 2680	4242. spartii, <i>Cast.</i> ... 2687
4239. diplospora, <i>Cke.</i> ... 2681	4243. syringæ, <i>Fab.</i> ... 2688
4240. loniceræ, <i>Sacc.</i> ... 2682	4244. futilis, <i>B. &amp; Br.</i> ... 2689

4245. *nitidula*, *Sacc.* ... 2690    4249. *pulchella*, *S. & S.* 2694  
 4246. *socialis*, *Sacc.* ... 2691    4250. *grumata*, *Cke.* ... 2695  
 4247. *oblitescens*, *B. & Br.* 2692    4251. *anserina*, *B. & Br.*  
 4248. *acerina*, *Rehm.* ... 2693

## \*\*\* DUBIE.

4252. *micula*, *Flot.* ... 2699    4255. *analeptoides*, *Bagb.* 2702  
 4253. *Wallrothii*, *Hepp.* 2700    4256. *grandiuscula*, *Anzi.* 2703  
 4254. *atomaria*, *Korb.* ... 2701    4257. *confusa*, *Garod.* ... 2704

\*\*\* AMPHISPHERIA. *Perithecia carbonacea.*

4258. *sepulta*, *Mont.* ... 2717    4262. *megalosperma*, *M.* 2739  
 4259. *dichroa*, *D. R. & M.* 2730    4263. *sapinea* (*Fr.*), *Karst.*  
 4260. *lamprostoma*, *Pass.* 7471    *Exs.* 880  
 4261. *Eduardi*, *Pass.* ... 7472    4264. *atrogrisea*, *C. & P.*

GEN. 9. LEPTOSPHERIA. *Sporidia pluriseptata.*\* GENUINA. *Perithecia nec clypeata.*

4265. *fusispora*, *Nsl.* ... 2013    4286. *fuscella*, *B. & Br.* 2959  
 4266. *lusitanica*, *Thum.* 2014    4287. *massariella*, *S. & Sp.* 2960  
 4267. *phiala*, *D. R. & M.* 2016    4288. *platycarpa*, *Sacc.* 2961  
 4268. *prætermissa*, *K.* ... 2944    4289. *pampini*, *Thum.* ... 2962  
 4269. *abbreviata*, *Cke.* ... 2945    4290. *vagabunda*, *Sacc.* 2963  
 4270. *Thomasiana*, *S. & R.* 6660    4291. *consimilis*, *E. & E.* 6670  
 4271. *tamaricis*, *Grev.* ... 2946    4292. *ceanothi*, *C. & H.* 6662  
 4272. *ribis*, *Karst.* ... 6661    4293. *rubrotincta*, *E. & E.* 6663  
 4273. *ramulicola*, *Peck.* 2947    4294. *Gillotiana*, *S. & R.* 6664  
 4274. *anceps*, *Sacc.* ... 2948    4295. *californica*, *C. & H.* 6665  
 4275. *tephrosiæ*, *C. & E.* 2949    4296. *odora*, *C. & H.* ... 6666  
 4276. *platanicola*, *Howe* 6130    4297. *ericæ*, *Fr.* ... 4380  
 4277. *vitis*, *Cast.* ... 2950    4298. *fallax*, *Berl.* ... 7481  
 4278. *inspersa*, *Schw.* ... 2951    4299. *Lindigii*, *Cke.*  
 4279. *Hazslinszkii*, *Sacc.* 2952    4300. *Baggei*, *Auers.* ... 2979  
 4280. *cladophila*, *Schrot.* 2953    4301. *sicula*, *Sacc.* ... 2980  
 4281. *Cookei*, *Pir.* ... 2954    4302. *appendiculata*, *Pir.* 2993  
 4282. *Gibelliana*, *Pir.* ... 2955    4303. *Saccardiana*, *Fab.* 3003  
 4283. *vitigena*, *Sacc.* ... 2956    4304. *Castagnei*, *D. R. &*  
 4284. *avellanæ*, *Fab.* ... 2957    *M.* ... 3005  
 4285. *coniothyrium*, *Sacc.* 2958    4305. *petiolicola*, *Sacc.* ... 3017

\* CLYPEOSPHERIA. *Perithecia clypeata.*

4306. *Notarisii*, *Fekl.* ... 3189    4309. *osculanda*, *Pr.* ... 3192  
 4307. *mamillana*, *Fr.* ... 3190    4310. *sabaligera*, *B. & C.* 3193  
 4308. *limitata*, *Pers.* ... 3191    4311. *hendersoniæ*, *Ellis* 3149

\*\*\* MELANOMMA. *Perithecia sub-ecorticata.*

4312. *hippophaes*, *Fab.* 3257    4314. *rhododendri*, *Rehm.* 3260  
 4313. *Martinianum*, *Linds.* 6141

GEN. 10. **DELACOUREA**. Sporidia muriformia, fusca.\* PLEOSPORA. *Asci octospori. Sporidia ecaudata.*

- |  |   |
|--|---|
| 4315. Saccardiana, <i>Iconum</i> . 3755      | 4323. Gilletiana, <i>Sacc.</i> ... 3763   |
| 4316. sambuci, <i>Plow.</i> ... 3756         | 4324. Spegazziniana, <i>Sacc.</i> 3764    |
| 4317. orbicularis, <i>Auers.</i> 3757        | 4325. laricina, <i>Rehm.</i> ... 3765     |
| 4318. clematidis, <i>Fckl.</i> ... 3758      | 4326. vitis, <i>Catt.</i> ... 3766        |
| 4319. eustegia, <i>Cke.</i> ... 3759         | 4327. cytisi, <i>Fckl.</i> ... 3767       |
| 4320. ephedrae, <i>Fab.</i> ... 3760         | 4328. thuridonta, <i>C. &amp; E.</i> 3768 |
| 4321. collaltina, <i>S. &amp; S.</i> 3761    | 4329. lichenalis, <i>Peck.</i> ... 3769   |
| 4322. Martianooffiana, <i>Thum.</i> ... 3762 | 4330. gummipara, <i>Oud.</i> 7499         |
|  | 4331. samarae, <i>Fckl.</i> ... 3785      |

\*\* DELACOUREA. *Sporidia hyalino-caudata.*

4332. insignis,
- Fab.*
- ... 3871

\*\*\* JULELIA. *Asci 1-2 spori.*

4333. buxi,
- Fab.*
- ... 3873    4334. monosperma,
- Peck.*
- 3874

**Physalospora rhodina**, *Berk. & Curt. in Curtis Catalogue*, p. 148.

Gregaria, tecta. Peritheciis subglobosis, minimis, atris, ostiolis erumpentibus. Ascis clavatis, octosporis. Sporidiis sublanceolatis, continuis, hyalinis (03-035 × 01 mm.).

On branches of *Rosa rubiginosa*. Carolina, U.S.

**Didymosphæria (Amphisphæria) atro-grisea**. *Cke. & Peck.*

Peritheciis sparsis, convexis, in cortice immersis, cuticulo griseo tectis, demum ostiolo atro erumpentibus. Ascis cylindraceis, octosporis. Sporidiis uniserialibus, ellipticis, uniseptatis, fuscis (015 × 008 mm.).

On bark of *Quercus alba*. New York, U.S. (*Peck*, No. 3.) Poughkeepsie. (*Gerard*, No. 1.)

Although under the impression that this species was described 10 or 12 years ago, we find no reference to the description.

**Massaria (Massariella) seriata**, *Cooke.*

Peritheciis depressiusculis, majusculis, seriato-dispositis, peridermio tectis, demum fissuratis. Ascis clavatis. Sporidiis ellipticis, 60 × 18-20  $\mu$ , uniseptatis, medio constrictis, fuscis, cellulis æqualibus, episporio crasso, hyalino obvolutis.

On branches of *Carya*. S. Carolina (*Rav.*, 1763).

**Massaria distincta**, *Cke. Sphæria distincta*, *Schwein. Amer. Bor.*, No. 1655, *Sacc. Syll.* 4359.

Sporidiis biserialibus, 5-septatis, fuscis, 70-80 × 16-18  $\mu$ , medio constrictis, muco hyalino primo obvolutis.

**Massaria olivacea**, *Cooke. Sphæria olivaceo-hirta*, *Schwein. Amer. Bor.*, No. 1656, *Sacc. Syll.* No. 4353.

Sporidiis biserialibus, lanceolatis, 3-5 septatis, fuscis (50-60 × 12-16  $\mu$ ), primitus ocellato nucleatis, medio-constrictis.

**Massaria (Massariella) scoriadea**, Fr. *Anthostoma scoriadeum*, Sacc. *Syll.* 1127.

Sporidiis ellipticis, uniseptatis,  $70 \times 23 \mu$ , cellulo superiori majusculo, medio constricto, episporio crasso, hyalino. *Ex. Fries S. S.* 344.

Undoubtedly the authentic specimen we have from Fries answers in all points to this section of the genus *Massaria*.

**Massaria (Massariella) bispora**, *Curtis Catalogue and Herb.*

Peritheciis corticolis, subgloboso-depressis, tectis, subsparsis, ostiolo peridermium perforante matrice sporis inquinantibus. Ascis clavatis. Sporidiis ellipticis, uniseptatis, fuscis,  $45 \times 18-20 \mu$ , cellulis æqualibus, medio constrictis, muco hyalino obvolutis.

On back of *Acer*. (*Dr. Curtis.*)

KANSAS FUNGI.—Kellerman and Swingle have issued the first fascicle of their specimens of Kansas Fungi, consisting of 25 species, for the sum of one dollar and a quarter. This series it is proposed to confine to select species, which are either new, hitherto undistributed, or in some respect especially interesting. The following contents of the first fascicle will indicate the scope of the issue.

1. *Æcidium Æsculi*, E. & K.
2. *Æcidium Dicentræ*, Trelease.
3. *Ceratophorum uncinatum* (Clinton), Sacc.
4. *Cercospora Cucurbitæ*, E. & E.
5. *Cercospora Desmanthi*, E. & K.
6. *Cercospora lateritia*, Ell. & Halsted.
7. *Cercospora seminalis*, E. & E.
8. *Glæosporium apocryptum*, E. & E.
9. *Glæosporium decipiens*, E. & E.
10. *Melasmia Gleditschiæ*, E. & E.
11. *Microsphaera quercina* (Schw.) Burrill.
12. *Peronospora Arthuri*, Farlow.
13. *Peronospora Corydalis*, De Bary.
14. *Phragmidium speciosum*, Fr.
15. *Puccinia emaculata*, Schw.
16. *Puccinia Schedonnardi*, Kell. & Sw.
17. *Puccinia (Leptopuccinia) Xanthii*, Schw.
18. *Ramularia Virgaureæ*, Thuem.
19. *Ræstelia pyrata* (Schw.) Thaxter.
20. *Scolecotrichum maculicola*, E. & K.
21. *Septoria aryophylla*, E. & K.
22. *Septoria Speculariæ*, B. & C.
23. *Sphærotheca phytophila*, Kell. & Sw.
24. *Uredo Quercus*, Brondeau.
25. *Ustilago Zeæ Mays* (DC.), Winter.



## COOKE HERBARIUM.

The large herbarium of Fungi transferred by M. C. Cooke to the Royal Herbarium at Kew, is now for the most part incorporated with the National collection. The total number of specimens reach to 46,000, being nearly double that of the Berkeley Herbarium, and these, approximately, represent:—

Hymenomycetes	...	...	...	11,000
Gasteromycetes and Myxogastres	...	...	...	2,000
Ustilagines and Uredines	...	...	...	6,000
Discomycetes	...	...	...	6,000
Pyrenomycetes	...	...	...	12,000
Incompletæ	...	...	...	9,000

The number of species has not been calculated, a large number of which are types, and others as important as types; such, for instance, are the individual specimens used in the illustration of "Mycographia." The entire collection is a most valuable one, and has fitly become national property, containing as it does contributions from most of the mycologists of the past forty years, Berkeley, Broome, Bloxam, Cesati, Currey, Curtis, De Notaris, Duby, Ellis, Fries, Kalchbrenner, Leveille, Montagne, Peck, Ravenal, Rabenhorst, Westendorp, Winter, &c., &c.

## WHAT IS LICHENOPSIS?

By M. C. COOKE.

Schweinitz described and figured in his "Fungi Americani Boreali" a fungus which he there named *Lichenopsis sphaeroboloides*, and, upon the faith of this description and its illustrative figures, Prof. Saccardo has, in his "Sylloge" (Vol. iii., p. 442), included it in *Sphaeropsidææ*. This is the first interpretation of the genus.

In the Berkeley Herbarium there is a very good specimen of this fungus, contributed by Schweinitz himself, which accords very well with the description externally, and also internally to a certain extent, but not entirely, since this is a *Discomycete*, differing very little, if at all, from *Schmitzonia*; and this is the second interpretation accepted by Berkeley, and Curtis, and also, we fancy, by most of the American botanists.

The third interpretation appears to be an accidental one. It is based on specimens from S. Carolina in the Berkeley Herbarium, and included under *Lichenopsis sphaeroboloides*, with which it agrees in external appearance and habit, but differs in fructification. Which of these is the true *Lichenopsis*? There certainly seems to be a strong presumption in favour of the authentic specimen derived from Schweinitz. It is erumpent, with the appearance of a *Stictis*, the hymenium

soon falling out and leaving a cup-shaped hollow.— This hymenium is a compact mass of long cylindrical asci, mixed with paraphyses, the tips of which are pyriform and coloured. The sporidia are filiform, the length of the ascus (150-160  $\mu$ ) multiseptate and hyaline, as in *Schmitzomia*. Making allowance for the inferior microscopes at the time when this description was constructed, as well as the slight care bestowed upon microscopical characters, it is not unreasonable to suppose that the coloured tips of the paraphyses were interpreted by Schweinitz as the spores, and the septate hyaline sporidia as the long septate basidia. This view is strengthened by a comparison of the figures, given with the description, and the fructification of the Schweinitzian specimen. No one has seen a specimen corresponding with the description as interpreted by Saccardo; and yet the species, as represented by the specimen alluded to, has several times been found in the United States. We infer, therefore, that *Lichenopsis sphæroboloides* is the Stictiform Discomycete published in Ravenal's "Carolina Fungi" (iii., No. 72), resembling, if not congeneric with *Schmitzomia*. And, further, that the description drawn up by Schweinitz was imperfect and misleading through a wrong interpretation of the facts. Hence the genus *Lichenopsis*, as a genus of Sphæropoid Fungi, is untenable, and should be regarded as a spurious, or, at the very least, a very doubtful genus.

The third interpretation, as already stated, is based upon specimens which have the external appearance of the Schweinitzian specimen, but with different fruit. In this the asci are also cylindrical, but broader, and contain eight large cylindrical sporidia (120-135  $\times$  15-17  $\mu$ ) divided transversely by numerous septa, each cell so formed being at length longitudinally divided, so that the entire sporidium is muriform and hyaline. At complete maturity the joints separate, as figured by Berkeley in the sporidia of *Platygrapha magnifica* ("Annals of Natural History," Vol. xiv., t. 5, fig. 26 C).

This pseudo-Lichenopsis would, but for the longitudinal division of the cells, rank with Berkeley's *Platygrapha magnifica*, which, by-the-bye, is entirely out of place in *Platygrapha*, has nothing in common with the genus *Platygrapha* as recognized by Montague, and, in our opinion, is entitled to rank with fungi, and not with Lichens. With this impression, therefore, we are disposed to place these two fungi in a distinct genus of *Sticticiæ* under the name of—

PLATYSTICTA, n.g. Erumpens, orbicularis, urceolatis, marginatis; disco plus minus decedente. Sporidiis magnis, hyalinis, pluriseptatis vel muriformibus, dissilientibus.

\* *Sporidiis pluriseptatis*.

PLATYSTICTA MAGNIFICA (B. & Br.). *Platygrapha magnifica*, B. & Br. Ceylon Fungi, No. 973 e, t. 5, fig. 26.

\*\* *Sporidiis muriformibus.*

PLATYSTICTA SIMULANS, Cke. & Mass. *Lichenopsis sphaeroboloides*, Berk in Herb. pro parte.

Immersa, erumpens, discoidea, urceolatis, margine albo. Ascis cylindraceis. Sporidiis cylindraceis, utrinque rotundatis, medio constrictis, pluriseptatis, dein muriformibus, hyalinis, 120-135  $\times$  16-17  $\mu$ .

On *Quercus*. S. Carolina. No. 2423.

### THELEPHOREI.

It has long been, and probably still is, somewhat a reproach to mycologists that whereas so much has been done in other orders of Fungi, the *Thelephorei* remain pretty much the same as they were fifty years ago. Yet there is ample scope for improvement, since the microscope has been very little brought into use with the view of facilitating their classification or more accurate determination. One slight step was taken in advance when certain species of *Stereum* were separated, and constituted a distinct genus, under the name of *Hymenochaete*, but even this failed to command universal acceptance. This failure was hardly based upon legitimate grounds, for the genus is a most natural one, but may partly be attributed to a prejudice against microscopical characters, on account of the additional labour involved, until it became almost compulsory. Another effort was subsequently made to obtain recognition for the genus *Peniophora*, which to some extent approached *Hymenochaete*, and was composed, for the most part, of species separated from the large genus *Corticium*. This, again, was not at all generally appreciated, and mycologists still went on attempting to identify species by the aid of a pocket lens, and the short, imperfect diagnosis of the older authors.

Anyone who has ever attempted the identification in this manner of the species of *Corticium* is painfully conscious of the difficulties which beset the way. The consultation of any good herbarium will consequently result in the discovery that, when the microscope is brought into operation, a series of specimens, having considerable external resemblance, are so different in fructification, and sometimes in texture, that only a very catholic spirit could induce anyone to accept them as one species. And yet there are so many good features in texture, as well as of fructification, that one is led to marvel that these have not been taken advantage of long ago to reform the classification.

It is needless to indicate here what are the features to be relied upon in a revision, since the work has long since been taken in hand by Mr. G. Masee, who for many months has been engaged in examining types, and elaborating new features

by means of which some of the larger genera may be reduced to working order. No inconsiderable portion of this monograph is already in type, and the residue ready for press at the shortest notice. When this appears we may probably embrace the opportunity to revert to the subject, and advance our opinion on the various modifications adopted. Without the aid of authentic specimens it is almost impossible in some cases to determine with exactitude the species of old authors, which depend entirely upon a short description drawn up from the external appearance. What hundreds of specimens have had to be examined in the course of these researches must be left to the imagination, and it is to be hoped that the results will be accepted with that appreciation which so much arduous and honest labour deserves. It would be too much to expect that any first effort of this kind should be absolutely perfect, but we may be sure that it will mark a step in advance, and render a difficult branch of the study more easy of comprehension.

Let anyone make the experiment for himself by consulting a large herbarium, in which, perhaps, some common species is represented by 50 or 100 specimens from various localities, determined, it may be, by several different individuals. Externally, it is true that they may bear a general resemblance the one to the other, but, when more minutely examined, it will be discovered that several different types of structure, or of fructification, all bear the same name. In such a case what is to determine the true species? Undoubtedly some authentic specimen of the original type, if it can be procured; but if not, then the form most generally accepted by mycologists of repute, or who were known to be in communication with the original author. It may be contended that even the original author, not having employed the microscope, may have issued specimens under the same name which are not identical. This has been done in the *Sphaeriacei*, and may also occur in this group. In such a case the one which accords most closely with the description should be adopted, and accepted, supplemented with such details as may prevent a similar error in the future.

The advent of a monograph of the *Thelephorei* will, therefore, be anticipated with pleasure, and it is to be hoped that in a few weeks the first portion will be in the hands of all interested parties.

---

FUNGUS FORAYS, 1889.—Hitherto arrangements for the annual Forays are incomplete. Of course the Woolhope Club will occupy as usual the first week in October. The Hampshire Field Club have intimated their intention of continuing the precedent of the past two years, and there will be excursions in Epping Forest.

## MEMORABILIA.

LINDBERG.—By the death of Professor Lindberg, of Helsingfors, bryologists have lost a valuable coadjutor at the early age of 54. During his career he did considerable service, although we somewhat doubt the expediency of changing so many names, on the ground of priority, to which he was addicted.

CLAVARIA CLAVATA, *Peck.*, in Ellis N. Amer. Fungi, No. 613, 25th report of New York State Museum of Natural History, p. 83, is undoubtedly the same as *Clavaria paludicola*, *Lib.*, Pl. Crypt. Ard. fasc. 4, No. 322 (1837).

BRAITHWAITE'S MOSS FLORA.—We are informed that another part of this valuable work may be anticipated about July.

FUNGI, THEIR NATURE, USES, ETC.—Another edition, the fourth, of this volume by M. C. Cooke, in the International Scientific Series, has just appeared. It is almost unique that a book on Fungi, in this country, should proceed beyond a first, or at most a second edition.

COOKE'S ILLUSTRATIONS OF FUNGI.—This work has now reached its 69th part, and plate 1,098. Progress has of late been very slow, on account of the difficulty experienced in getting the plates printed. Part 70 will include the greater part of *Cantharellus*, leaving *Marasmius* as the only remaining large genus to be encountered. The end is therefore in sight.

COOKE'S BRITISH FRESH WATER ALGÆ.—As only about four copies of this work still remain to be sold, it is expedient that any person, or Society, intending to purchase should at once come to a resolution. All the plates are "cleaned off," and hence the work is not likely to be reproduced. There is no doubt that stray copies will soon advance considerably in price.

BOLETUS AND POLYPORUS.—It has been suggested that on the completion of Cooke's Illustrations of Fungi, embracing all the British Agaricini, a new work should be projected of the same character, giving coloured illustrations of *Boletus*, *Polyporus*, *Trametes*, *Dadalea*, *Merulius*, etc.; in fact, all the British Polyporei. It is presumed that such a work could be contained within the limits of a single volume of about 10 parts, with 16 plates each. The suggestion is still under consideration, and, if attempted, it would be as a *distinct* work, so as not to extend the "Illustrations of Fungi" beyond the projected eight volumes.

EPHELIS.—A recent communication by M. C. Cooke and G. Massee, in the "Annals of Botany," suggests that the original

genus established by Fries belongs to the *Sphærospideæ*, and that the name should not be employed in *Discomycetes* (as has been done by Mr. Phillips). A new development is detailed in the above paper, in which a Pyrenomycete (*Balansia trinitensis*, C. & M.) is shown to have been produced from the stroma of *Ephelis trinitensis*, C. & M., a species closely allied to *Ephelis mexicana*.

---

CRYPTOGAMIC LITERATURE.

PURCHAS, W. H., and LEY, A. Flora of Herefordshire. Musci, by Rev. A. Ley. Fungi, by M. C. Cooke, etc.

ROMELL, Lars. Fungi aliquot novi, in Suecia lecti "Botaniska Notiser," No. 1. 1889.

BARNES, C. E. Notes on American Mosses, in "Botanical Gazette," Feb., 1889.

HUSNOT, M. Liste des Bryologues du Monde, in "Revue Bryologique," No. 2, 1889.

STEVENSON, J., and TRAIL, J. W. H. Fungi of Inverary, in "Scottish Naturalist," April, 1889.

SOROKINE, Dr. N. Materieux pour la Flore Cryptogam. de l'Asie Centrale, in "Revue Mycologique," April, 1889.

SPGAZZINI, C. Fungi nonnulli Paraguariæ et Fuegiæ, in "Revue Mycologique," April, 1889.

KARSTEN, P. A. Fungi quidam novi, etc., in "Revue Mycologique," April, 1889.

COOKE, M. C., and MASSEE, G. A new development of *Ephelis*, in "Annals of Botany," Vol. iii., Feb., 1889.

GRUNOW, A. On the Oamaru Diatom Papers of Grove and Sturt, in "Journ. Quek. Micr. Club," April, 1889.

MCBRIDE, T. H. Saprophytic Fungi of Eastern Iowa, in "Bullet. Labor. N. H. Iowa," No. 1.

MCBRIDE, T. H., and HITCHCOCK, A. S. The Peronosporæ of Iowa, in "Bull. Labor. N. H. Iowa," No. 1.

DIETEL, P. Telentosporien bei der Gattung Gymnosporangium, in "Hedwigia," No. 2, 1889.

LAGERHEIM, G. Ueber einige neue oder bemerkenswerthe Uredineæ. "Hedwigia," No. 2, 1889.

KARSTEN, P. A. Fragmenta mycologica, xxvi., in "Hedwigia," No. 2, 1889.

MAGNUS, P. On *Thorea ramosissima*, in "Hedwigia," No. 2, 1889.

SACCARDO, P. A. *Mycetes aliquot australiensis*, in "Hedwigia," No. 2, 1889.

RACIBORSKI, M. Ueber einige neue Myxomyceten Polens. "Hedwigia," No. 2, 1889.

STEPHANI, F. *Hepaticæ Australiæ*, in "Hedwigia," No. 2, 1889.

CRISP, F., and others. Summary of Current Cryptogamic Literature, in "Journ. Roy. Micr. Soc.," April, 1889.

MACOUN, J. Contributions to the Bryology of Canada, in "Bull. Torr. Bot. Club," April, 1889.

SCHULZE, E. A. Descriptive List of Staten Island Diatoms, in "Bull. Torr. Bot. Club," April, 1889.

ECKFELDT, J. W. Some New North American Lichens, in "Bull. Torr. Bot. Club," April, 1889.

BRITTON, E. G. Contributions to American Bryology, in "Bull. Torr. Bot. Club," April, 1889.

KINGO MIYABE. Life History of *Macrosporium parasiticum*, in "Annals of Botany," iii., No. 9.

RENAULD, F., and CARDOT, J. New Mosses of North America, in "Botanical Gazette," No. 4, 1889.

KELLERMAN and SWINGLE. New Kansas Fungi, in "Journ. of Mycology," Vol. v., No. 1.

ELLIS, J. B. On *Scleroderma*, in "Saccardo Sylloge." "Journ. of Mycology," Vol. v., No. 1.

ELLIS and EVERHART. New Species of Hymenomycetous Fungi, in "Journ. of Mycology," Vol. v., No. 1.

ELLIS, J. . On *Triblidium rufulum*, in "Journ. of Mycology," Vol. v., No. 1.

ANDERSON, F. W. Brief Notes on Common Fungi of Montana, in "Journ. of Mycology," Vol. v., No. 1.

DE TONI, G. B. *Algæ novæ*, in "Notarisia," No. 14, April, 1889.

MASSALONGHO, C. Nuovi Miceti dell'agro Veronese, in "Nuovo Giorn. Bot. Ital.," April, 1889.

RICCONE, A. *Alge della crociera del "Corsaro," alle Azzorre*, in "Nuovo Giorn. Bot. Ital.," April, 1889.

MICHELETTI, L. Index Sclularum Criticarum, in "Lichenes Exsiccatos Italiæ," in "Nuovo Giorn. Bot. Ital.," April, 1889.

LUCAND, Captain. Figures de Champignons de la France Fasc. xi.

COOKE, M. C. Illustrations of Fungi, No. 68, 69.

## INDEX TO VOL. XVII.

	PAGE.
Agaricus (Lep) echinodermatis ... ..	59
Australasian Fungi ... ..	7, 55, 69, 81
Bentham's drying paper ... ..	18
Berkeley and Curtis Types ... ..	6
Botryodiplodia acinosa ... ..	59
Braithwaite's Moss Flora ... ..	80
British Discomycetes ... ..	42
British Hyphomycetes ... ..	8
British Moss Flora ... ..	80
British Uredineæ and Ustilagineæ ... ..	62
Clavaria fragrans ... ..	59
Clavaria velutina ... ..	59
Colpoma Azaleæ ... ..	58
Cooke Herbarium ... ..	95
Cooke, M. C., Australasian Fungi ... ..	7, 55, 69, 81
"    "    Berkeley and Curtis Types ... ..	6
"    "    Brisbane Fungi ... ..	69
"    "    Exotic Fungi ... ..	16, 42, 59, 75
"    "    New British Fungi ... ..	1, 38, 56, 79
"    "    Notes and Queries on Russulæ ... ..	28
"    "    Synopsis Pyrenomycetum ... ..	26, 49, 85
"    "    Three Natal Fungi ... ..	70
Corticium crociereas ... ..	18
Corticium dryinum ... ..	18
Crinula paradoxa ... ..	18
Cryptogamic Literature ... ..	21, 47, 71, 99
Discomycetes, British ... ..	43
Erysiphe and Uncinula polychæta ... ..	76
Exotic Fungi ... ..	16, 42, 59, 75
Flora of Herefordshire ... ..	81
Fungi, Australasian ... ..	7, 55, 69, 81
Fungi, Brisbane ... ..	69



	PAGE.
Fungi, Exotic ... ..	16, 42, 59, 75
Fungi, Natal ... ..	70
Fungi, New British ... ..	1, 38, 56, 79
Fungi, Scandinavici ... ..	64
Fungus Forays, 1888 ... ..	52
Hemiarocryia leiocarpa ... ..	59
Herefordshire Flora ... ..	81
Hymenochæte sprete ... ..	18
Hyphomycetes, British ... ..	8
Hysterium Carmichaelianum ... ..	58
Hysterium insidens ... ..	58
Kansas Fungi ... ..	93
Lichenopsis, what is it? ... ..	94
Lophodermium Petersii ... ..	58
Lucand's Champignons ... ..	83
Lycoperdon Missouriense... ..	58
Massee, G., British Pyrenomycetes ... ..	4, 57, 73
Massee, G., Erysiphe and Uncinula polychæta ... ..	76
Memorabilia ... ..	18, 58, 98
Mutinus bambusinus in Britain ... ..	17
New British Fungi... ..	1, 38, 56, 79
Omitted Diagnoses... ..	65
Phillips, W., British Discomycetes ... ..	43
Plowright's Uredinæ, etc. ... ..	62
Polyporus salignus... ..	58
Pyrenomycetes, British ... ..	4, 57, 73
Pyrenomycetum, Synopsis ... ..	26, 49, 85
Reticularia maxima ... ..	18
Russulæ, Notes and Queries ... ..	28
Saccardo Sylloge ... ..	19, 60
Siphoptychium Casparyi ... ..	18
Sylloge Algarum ... ..	18
Synopsis Pyrenomycetum... ..	26, 49, 85
Thelephorei ... ..	96
Three Natal Fungi... ..	70
Tilmadoche columbina ... ..	18
Trichia abrupta ... ..	59
Trichia affinis ... ..	59
Uredinæ and Ustilaginæ ... ..	62
What is Lichenopsis? ... ..	94

APPENDIX, containing revised diagnoses of the Hymenomycetes in "Cooke's Handbook," paged separately, in continuation pp. 257 to 312.

# Grevillea.

A QUARTERLY RECORD OF  
CRYPTOGAMIC BOTANY  
AND ITS LITERATURE.

---

EDITED BY M. C. COOKE, M.A., A.L.S.,

*Author of "Handbook of British Fungi," "Illustrations of British Fungi," "Fungi, their uses," &c., "Rust, Smut, Mildew, and Mould," "British Fresh Water Alga," "British Desmids," &c., &c.*

---

VOL. XVIII.

1889-90.

---

<sup>c</sup>  
<sup>k</sup>  
WILLIAMS AND NORGATE,  
HENRIETTA STREET, COVENT GARDEN, LONDON;  
SOUTH FREDERICK STREET, EDINBURGH.  
LEIPZIG: F. A. BROCKHAUS. NEW YORK: WESTERMANN & CO.

**Printed by:**  
**SOUTH COUNTIES PRESS LIMITED.**

# Grevillea,

A QUARTERLY RECORD OF CRYPTOGAMIC BOTANY  
AND ITS LITERATURE.

## NEW AUSTRALIAN FUNGI.

By M. C. COOKE.

(Continued from Vol. XVII., p. 81.)

Those to which an asterisk (\*) is prefixed communicated by Baron F. von Mueller.

**Agaricus (Amanita) murinus**, Cke. & Mass.

Pileo e campanulato expanso, obtuse umbonato, nitido, murino, subnudo, margine striatulo ( $1\frac{1}{2}$ -2 in. diam.). Stipite tenui, stricto, (3 unc. long,  $\frac{1}{4}$  unc. crass.), albido, deorsum subfibrilloso, annulo pendulo, volva bulboso, laxo, lamellis liberis, subconfertis, albis, vel leniter roseo-tinctis. Spores  $7 \times 5 \mu$ .

On sandy soil. Brisbane. (Bailey, 651, 659.)

**Agaricus (Amanitopsis) farinaceus**, Cke. & Mass.

Albus, fungus totus farinaceus. Pileo carnosus, convexo, applanato ( $2\frac{1}{2}$ -3  $\mu$ ), albido, verrucis erectis prominulis, præcipue disco ornato, margine tenui, velo adnato fimbriato, stipite æquali, ( $3-4 \times \frac{1}{2}$  unc.), exannulato, farcto, albo, volva bulbosa, margine libero crispato. Lamellis liberis, sublatis, confertis, albo lutescentibus. Sporis globosis, 10  $\mu$  diam.

On the ground. Brisbane. (Bailey, 690.)

**Agaricus (Amanitopsis) pulchellus**, Cke. & Mass.

Pileo convexo-expanso (1-2 unc. diam.) miniato, verrucis irregularibus, facile secedentibus oblecto, margine croceo, striatulo; stipite mox cavo, albo ( $2-2\frac{1}{2}$  unc. long,  $\frac{1}{4}$  unc. crass.), volva adnato, marginato, basi ovato-bulbosa, annulo obsoleto, lamellis liberis, ventricosis, confertis, albis, demum flavo-tingentibus. Sporis subglobosis, 7-8  $\mu$ .

On the ground. Victoria. (Mrs. Martin, 448, with figs.)

Very much resembling a diminutive form of *Ag. muscarius* without a ring.

**Agaricus (Leptota) fmetarius**, C. & M.

Pileo carnosus, tenui, campanulato, obtuse umbonato ( $\frac{1}{2}$ - $\frac{3}{4}$  unc. lato), pallido floccoso, squamulis adnatis, floccosis obscurioribus ornato. Stipite (1-2 unc. long) gracili, subæquali, deorsum

squamuloso, annulo fugaci, lamellis liberis, lanceolatis, confertis, albidis. Sporis ovato-apiculatis ( $7 \times 5 \mu$ ).

On dung. Brisbane. (Bailey, 759.)

Similar in some respects to *Ag. subclypeolarius*, but with a distinctly squamulose stem.

**Agaricus (Lepiota) ochrophyllus**, Cke. & Mass.

Pileo carnoso, explanato, obtuso, pallide ochraceo, squamis innatis, concentricis obscurioribus variegato (4-6 unc. lat.), margine striatulo, stipite solido, erecto, glabro, demum striato-fibrilloso, deorsum bulboso (7 unc. long, 1 unc. crass.), concolori, annulo supero, pendulo, lamellis latis, postice attenuatis, liberis, subconfertis, ochraceis. Sporis ellipticis,  $12 \times 8 \mu$ .

On sandy land near Brisbane. (Bailey, 655.)

Colour of the gills "like new washleather." A very fine species, allied to *A. procerus*.

**Agaricus (Schulzeria) revocans**, Cke. & Mass.

Pileo subcarnoso, convexo, applanato ( $2-2\frac{1}{2}$  unc. lat.), molli, pallido, squamis obscurioribus, præcipue disco, maculato, margine tenui, stipite subbulboso, erecto, exannulato, deorsum fusco, sursum albido, glabro (3 unc. long,  $\frac{1}{4}$  unc. crass.), demum cavo. Sporis  $6 \times 4 \mu$ .

In gardens. Brisbane. (Bailey, 684.)

**Agaricus (Armillaria) fulgens**, Cke. & Mass.

Pileo convexo-applanato ( $2\frac{1}{2}-3$  unc. diam.), læte aureo, lævi, glabro, nitido, stipite erecto, gracili (4-5 unc. long,  $\frac{1}{3}$  unc. crass.), fistuloso, lævi, pallide citrino, annulo patulo, lamellis adnatis, subconfertis, citrinis, sporis globoso-apiculatis,  $8-9 \mu$  diam.

On sandy soil. Brisbane. (Bailey, 696.)

**Agaricus (Tricholoma) coarctatus**, Cke. & Mass.

Cæspitosus, coarctatus, difformis. Pileo carnoso, convexo-plano, obtuso, viscido, alutaceo (1-3 unc. diam.), siccitate rimoso, margine lævi, stipite solido ( $1\frac{1}{2}$  unc. long,  $\frac{1}{3}-\frac{1}{2}$  unc. crass.), bulboso-radicato; lamellis subconfertis, latis, sinuato-adnexis, ventricosis, albis, rubrotinctis. Sporis ellipticis,  $6 \times 3 \mu$ .

On sandy soil. Sandringham, Victoria. (Tisdall, 1, 2.)

Allied to *Ag. albo-brunneus*, Fr.

**Agaricus (Clitocybe) subsplendens**, Cke. & Mass.

Agreeing in most points with *Agaricus (Clitocybe) splendens*, Fr., but cæspitose in habit, and the gills only slightly decurrent. Spores subglobose,  $4-5 \mu$  diam.

Amongst grass in garden. Brisbane. (Bailey, 722.)

**Agaricus (Laccaria) canaliculata**, Cke. & Mass.

Pileo submembranaceo (1 unc. lat.) demum umbilicato, velutino, radiato-caniculato, læte fusco, margine tenui, crenulato; stipite æquali, longitudinaliter fibrilloso, tenaci, demum fistuloso, pallidiori, lamellis adnatis, latis, subdistantibus, carneis, albo pruinosis. Sporis globosis, verrucosis,  $9-10 \mu$  diam.

Under *Casuarina* trees. Brisbane. (Bailey, 710.)

**Agaricus (Pleurotus) sulciceps, Cke. & Mass.**

Pileo carnosio, tenui, e plano infundibuliformi, radiato-rugoso, subsulcato, glabro, fuligineo, disco obscuriori, subvelutino, margine patente, crispato, plerumque sublobato (1-2 unc. diam.). Lamellis tenuibus, distantibus, postice attenuatis, decurrentibus, intersticiis venosis, albis. Stipite tenui, cavo, compresso, curvulo, striato, albido (1-1½ unc. long, 2 lin. crass.). Spor. 5 × 3 μ.

On rotten wood. Brisbane. (Bailey, 734.)

**Agaricus (Annularia) insignis, Cke. & Mass.**

Amplius. Pileo carnosio, convexo, pallido, cute in squamis latis, adnatis, obscurioribus diffracto, margine incurvo (3-5 unc. diam.), carne crasso (½-¾ unc.), firmo, albo; stipite curto, obclavato, albido, crasso (2 unc. long, 1 unc. et ultra crass.), annulato, infra annulum squamis fuscis zonato, plerumque carneo-maculato. Lamellis liberis, postice rotundatis, subconfertis, albidis, dein salmonicoloribus. Spor. subglobosis, lævibus, 5 μ.

On the ground. River Yarra, Victoria. (Tisdall, 8.)

**Agaricus (Hebeloma) gigaspora, Cke. & Mass.**

Pileo carnosulo, convexo-applanato, umbonato (½ unc. diam.), nudo, glabro, udo, luteo-fusco; stipite premorso-radicato, fistuloso, æquali, vel basim incrassato (1½ unc. long), glabro, pallidiore, mycelio profuso. Lamellis latis, adnatis, subconfertis, olivaceis. Spor. majusculis, 18 × 8-9.

On the ground. Yarra Falls, Victoria. (Tisdall, 20.)

Allied to *A. petiginosus*, P.

**Agaricus (Flammula) avellanus, Cke. & Mass.**

(GYMNOTI.) Pileo carnosio, convexo, sicco, glabro, avellano-brunneo (2 unc. lat.). Stipite sursum attenuato, striato, pallidiori (2-2½ unc. long, ¼-½ unc. crass.); lamellis adnatis, latis, vix confertis, fulvo-ferrugineis. Spor. ellipticis, 10 × 6 μ.

On sandy ground. Brisbane. (Bailey, 653.)

The gills are rather paler than the pileus. Most closely to *A. Tammii*.

**Agaricus (Flammula) prasinus, Cke. & Mass.**

Pileo carnosio, convexo-expanso, sicco, sericeo, prasinato (1-2½ unc. diam.). Stipite æquali, stricto, farcto, glabro, lævi, citrino, (1½-2½ unc. long, ¼-½ unc. crass.); lamellis adnatis, ventricosis, luteis, fusciscentibus. Spor. 10-12 × 6 μ.

On the ground. Lilydale. (Mrs. Martin, 447, with fig.)

**Agaricus (Psalliota) elatior, Cke. & Mass.**

Pileus tenuiter carnosio, convexo-plano, umbonato (1½ unc. diam.) fusco, squamis obscurioribus adpressis tecto. Stipite erecto, cylindrico, elongato (3-5 unc. longa, 2 lin. crass.), sericeo, albido, basi incrassato, annulo supero, secedente; lamellis liberis, subconfertis, ventricosis, purpureo-fuscis. Spor. minutis (3 × 2 μ).

On the ground. Eltham, Victoria. (Tisdall, 23.)

**Agaricus (Hypholoma) adustus, C. & M.**

Pileo carnosio, convexo, obtuso, atro-fusco, squamis innatis obscurioribus variegato (2 unc. lat.), stipite æquali, pallidiori,

glabro ( $1\frac{1}{2}$ -2 unc. long,  $\frac{1}{4}$  unc. crass.) intus *flavidis*, fartis, lamellis adnatis, confertis, aridis, lividis, dein brunneo nigricantibus. Sporis  $7-8 \times 4-5 \mu$ .

On the ground. Brisbane. (*Bailey*, 672.)

Allied to *Ag. lacrymabundus*, whole plant becoming quite black in drying.

**Agaricus (*Panæolus*) eburneus**, C. & M.

Pileo carnosulo, convexo-campanulato, obtuso, lævi, eburneo, nitente (1-2 unc. lat.) stipite fragili, erecto, elongato, stricto, æquali, albo-nitente, demum cavo, exannulato (4-6 unc. long, 2 lin. crass.) lamellis ventricosis, confertis, adnatis, nigrescentibus, sporis ellipticis, utrinque attenuatis,  $15 \times 9 \mu$ .

Mostly on dung. Brisbane. (*Bailey*, 661.)

Resembling *Ag. separatus*, but white, and without a ring.

**Agaricus (*Panæolus*) veluticeps**, Cke. & Mass.

Pileo convexo-campanulato, obtuso ( $\frac{1}{2}$ - $\frac{3}{4}$  unc. diam.) velutino, griseo, margine glabro, brunneo; stipite elongato (3-4 unc.) gracili, fistuloso, glabro, argente-griseo, lamellis adnatis, subconfertis, ventricosis, nigrescentibus, sporis elliptico-acuminatis,  $14-15 \times 10 \mu$ .

In garden amongst grass. Brisbane. (*Bailey*, 706.)

Remarkable for the silvery grey velvety pileus with a smooth brown margin.

**Agaricus (*Panæolus*) ovatus**, Cke. & Mass.

Pileo carnosulo, ovato, obtuso, opaco, demum diffracto-rimoso, albo; margine diu incurvo, ( $1\frac{1}{2}$ -2 in. diam.) stipite erecto (4-6 unc. long), æquali, firmo, farcto, ad basim incrassato, sericeo, albo, lamellis griseo-nigrescentibus, adfixis, subconfertis, latiusculis. Sporis  $14-15 \times 10 \mu$ .

On manure, Yarra, &c. Victoria. (*Tisdall*, 6, 16.)

**Hygrophorus candidus**, Cke. & Mass.

Candidus. Pileo carnosulo, convexo, viscido, disco fusco-tincto, obtuso ( $1\frac{1}{2}$  unc. diam.), margine tenuissimo. Stipite subflexuoso, deorsum attenuato, farcto ( $2-2\frac{1}{2}$  unc. long), albo, hinc illic ochraceo-maculato. Lamellis subdistantibus, postice rotundatis, sporis subglobosis,  $4 \times 3 \mu$ .

On the ground. Sandringham, Victoria. (*Tisdall*, No. 14.)

**Cantharellus (*Mesopus*) aureolus**, Cke. & Mass.

Cæspitosus, aureolus. Pileo tenui, plano-depresso, subtiliter pubescente, margine inflexo ( $\frac{1}{4}$ - $\frac{1}{2}$  unc. diam.) Stipite gracili (1 unc. long), æquali, substriatulo, lamellis numerosis, subconfertis, angustissimis, adnato-decurrentibus, sporis globosis, 5-6  $\mu$  diam.

On the ground. Brisbane. (*Bailey*, 787.)

Whole plant of a dark gold colour.

**Marasmius lanaripes**, Cke. & Mass.

Pileo e carnosulo coriaceo, tenui, convexo-applanato, glabro, lævi, plumbeo vel sordide atro-cæruleo (circa 1 unc. diam.); stipite erecto, rigido, demum compresso, fistuloso (2-3 unc. long, 1-2 lin.

crass.) concolori vel olivaceo-tincto, densissime velutino; lamellis adnexis, distantibus, ventricosus, fulventibus, sporis ellipticis, albis,  $7-8 \times 4 \mu$ .

On rotten wood. Brisbane. (Bailey, 721.)

Whole plant turning blackish in drying.

**Boletus (Hyporhodii) lacunosus, Cke. & Mass.**

Pileo e pulvinato expanso, molli, subviscoso, pallide ochraceo, fusco, vel sub-brunneo (2-4 unc. diam.) stipite subæquali, vel sursum attenuato, profunde lacunoso, pallido (3-4 unc. long, 1-2 unc. crass.) tubulis adnatis, poris majusculis, angulatis, albidis dein incarnatis. Sporibus amygdalæformibus, asperulis,  $15 \times 10 \mu$ .

On sandy ground. Brisbane. (Bailey, 649, 664, 670.)

Remarkable for the lacunose stem, but especially for the rough almond-shaped spores. Allied to *Boletus megalosporus*, Berk.

**Strobilomyces pallescens, Cke. & Mass.**

Pileo pulvinato, squamis crassis obtuse conicis imbricato, roseo-purpureo, demum pallescente, velo membranaceo lacerato, margine adherente. Stipite æquali, striato, pallido; tubulis liberis, utrinque abbreviatis, medio longissimis, poris majusculis, angulatis, lutescentibus. Carne fracto cærulescente, mox albidis. Sporibus fuscis, longitudinaliter rugosis,  $18-20 \times 8 \mu$ .

At the base of trees. Brisbane. (Bailey, 744.)

Very different in colour, and in the character of the warts to *S. rufescens*.

**Strobilomyces rufescens, Cke. & Mass.**

Tota rufescens. Pileo hemisphærico (3-4 unc.) obtusissimo, verrucis conicis imbricatis dense obsito, apicibus acutis recurvis secedentibus, margine velo ampliato fimbriato; stipite subbulboso, elongato (6-7 unc. long, 1 unc. crass.), sursum pallido, deorsum rufescens, striato, solido, tubulis liberis, postice abbreviatis; poris angulatis, majusculis, fulvescentibus. Sporibus fuscis,  $18-20 \times 9 \mu$ .

At the base of trees. Brisbane. (Bailey, 685.)

**Strobilomyces velutipes, Cke. & Mass.**

Nigrescens. Pileo pulvinato, obtuso, deplanato, squamis crassis, irregularibus obtusis imbricato, (2-3 unc. diam.), margine velo crenulato. Stipite æquali, velutino, sursum sulcato (2 unc. longa,  $1\frac{1}{2}$  unc. crass.). Tubulis elongatis, utrinque abbreviatis, poris angulatis, majusculis. Sporibus subglobosis, lævibus, læte fuscis,  $8 \times 5-6 \mu$ .

On the ground. Brisbane. (Bailey, 751.)

Resembling *S. strobiliaceus* and *S. nigricans*, but entirely differing in the spores.

**Thelephora (Apos) stereoides, Cke. & Mass.**

Coriacea. Pileis effuso-reflexis, villosis, ferrugineis, margine acuto crispulo, hymenio obscuriori, rugoso, acie pallidiore, rufescente. Sporibus globosis, verrucosis, fuscis,  $7-8 \mu$  diam.

On bark. Oakleigh, Victoria. (Mrs. Martin, 450.)

A very characteristic species, with the habit of a *Stereum* or



*Hymenochaete*, and the structure and spores of *Thelephora* extending 3 or 4 inches, with the reflexed pilei about half an inch deep.

***Lysurus australiensis*, Cke. & Mass.**

Receptaculo (1-1½ unc. longa) fusco, plerumque quinque-lobato, lobulis sursum attenuatis, primo conniventibus, demum subreflexis, medio longitudinaliter depressis, transverse rugosis. Stipite cylindrico (5 unc. longa, ¾ unc. diam.), cavo, celluloso, albedo. Volva globosa, lacerato-lobata, alba. Pulpa sporifera rufo-fusca, nigrescens. Sporis 3 × 1 μ.

On the ground. Brisbane River. (*Bailey*, No. 754, with fig.)

***Bovista anomala*, Cke. & Mass.**

Subglobosa, antice posticeque depressa; cortice tenui, fragili, ad basin plus minus regulariter subcupulatum persistenti, albedo; peridio crasso, coriaceo, subtiliter velutino, sordide ochraceo, superne ostiolo cylindrico, elevato-prominente, subsericeo, disco orbiculari depresso cincto; floccis hyalinis, nodulosis, 3-4 μ cr. Sporis globosis, verruculosis, brevissime pedicellatis, olivaceis, 4-5 μ diam.

On the ground. Victoria. (*Mrs. Martin*, 432.)

A remarkable species varying from 0.5-1.5 cm. diam. Externally resembling a *Geaster* in the prominent silky mouth surrounded by a depressed circular disc.

***Asterina platystoma*, Cke. & Mass.**

Mycelio tenui, plus minusve orbiculato, dendritico, nigro. Peritheciis convexis, applanatis, arcte adnatis, atris, ostiolo fissurato, amplo, elongato. Ascis saccatis, octosporis. Sporidiis ellipticis, uniseptatis, medio constrictis, fuscis, loculo supero latiori, 17-18 × 9 μ.

On living leaves of *Castanospermum*. Brisbane. (*Bailey*, 804.)

***Ailographum melloloides*, Cke. & Mass.**

Epiphyllum. Maculis atris, orbicularibus vel confluentibus, filis radiantibus mycelicis compositis. Peritheciis adnatis, gregariis, elongatis, linearibus, flexuosis, atris, labris arctissime clausis, maculas sistentibus. Ascis oblongis. Sporidiis 8, ellipticis, medio constrictis, uniseptatis, hyalinis, 12-14 × 7-8 μ.

On living or fading coriaceous leaves. Brisbane. (*Bailey*, 702.)

***Ailographum eucalypti*, Cke. & Mass.**

Amphigenum. Peritheciis gregariis, maculas subcirculares sistentibus, linearibus vel confluentibus, rectis vel curvulis, labris in sicco arcte clausis, atris, minutis. Ascis clavatis, octosporis. Sporidiis biserialibus, subfusiformibus, uni-triseptatis, hyalinis, 9-10 × 4 μ.

On dead leaves of *Eucalyptus*. Lilydale. (*Mrs. Martin*, No. 444.)

***Rosellinia tremellicola*, Cke. & Mass.**

Peritheciis sparsis, globosis, superficialibus, atris, papillatis, glabris. Ascis cylindraceis, octosporis. Sporidiis uniseriatis, ellipticis, continuis, fuscis, 7-8 × 4 μ.

On *Tremella fuciformis*. Brisbane. (*Bailey*, No. 771.)

**Stictis emarginata**, Cke. & Mass.

Minutissima, gregaria, epiphylla. Cupulis immersis, erumpentibus, poro pertuso, excipulo vero destituto. Ascis clavato-cylindricis, sessilibus. Sporidiis filiformibus, continuis, hyalinis, ascis aequantibus,  $70-75 \times 2 \mu$ .

On *Eucalyptus* leaves. Victoria. (Mrs. Martin, 439.)

**Phoma Daviesiae**, Cke. & Mass.

Hypophylla. Peritheciis minutissimis, tectis, atris, maculas nebulosae efformantibus, conidiis ovalibus, profusis, hyalinis,  $5 \times 3 \mu$ .

On dead leaves of *Daviesia latifolia*. Victoria. (Mrs. Martin, No. 438.)

**Leptothyrium eucalyptarum**, C. & M.

Peritheciis in macula exarida sparsis, scutiformi-applanatis, atris, angulosis, triangularis, vel subquadratis, medio stellato dehiscentibus. Sporulis, ovoideis, continuis, hyalinis  $4 \times 3 \mu$ .

On fallen leaves of *Eucalyptus*. Lilydale, Victoria. (Mrs. Martin, 439.)

**Polystigmina**, Sacc. Syll. III., 622.

MARTINELLA, sub. gen. nov. Conidia subsphaeroidea, vel elliptica, continua, fusca.

**Polystigmina (Martinella) eucalypti**, Cke. & Mass.

Epiphylla. Stromate suborbiculari, carnosae, planiusculo, rufofusco; peritheciis minutissimis, immersis, saturioribus, ostiolo fissurato. Sporulis sphaeroideo-ovalis, continuis, laete fuscis,  $6 \times 4 \mu$ .

On leaves of *Eucalyptus*. Lilydale, Victoria. (Mrs. Martin, 443.)

**Glœosporium Hedycaryi**, Cke. & Mass.

Epiphyllum. Maculis orbicularibus, nigricantibus, acervulis solitariis vel gregariis; conidiis oblongis, utrinque rotundatis, granulosis, hyalinis,  $18 \times 4 \mu$ .

On fading leaves of *Hedycarya Cunninghami*. Macedon, Victoria. (Mrs. Martin, No. 431.)

**\*Sterigmatocystis chlorina**, Cke. & Mass.

Effusa, maculiformia, atro-fusca; hyphis erectis, simplicibus, supra globoso-inflatis; vesiculæ processibus cuneatibus, radiantibus, hyalinis; basidia 3-4, ellipsoidea, olivacea, gerentibus. Conidiis globosis, laevibus, olivaceis,  $5-6 \mu$  diam.

On fruit of *Citrus*. E. New Guinea. (Dr. McGregor.)

**Cercospora Daviesiae**, C. & Mass.

Epiphylla. Maculis fuscis, irregularibus, angulatis; hyphis fasciculatis, abbreviatis; conidiis cylindræis, vel sursum attenuatis, obtusis, curvulis, arcuatis, 5 septatis, pallide fuscis,  $60 \times 4 \mu$ .

On fading leaves of *Daviesia latifolia*. Victoria. (Mrs. Martin, No. 438.)

**Cercospora eucalypti**, Cke. & Mass.

Maculis subcircularibus, vel confluentibus, pallidis, roseo mar

ginatis, hyphis abbreviatis. Conidiis cylindricis, curvulis, utrinque obtusis, vix septatis, pallidis,  $30-35 \times 4 \mu$ .

On fading leaves of *Eucalyptus*. Oakleigh. (Mrs. Martin, 486.)

\**Stilbum formicarum*, Cke. & Mass.

Stipitibus elongatis, gracilis (5-8 mm. long), atris, flexuosis, deorsum leviter incrassatis, capitulo obovato, roseo, conidiis ellipticis ( $10 \times 3 \mu$ ) hyalinis.

On dead ant (*Formica*). Cheltenham, Victoria. (French.)

## BRITISH PYRENOMYCETES.

By G. MASSEE.

(Continued from Vol. xvii., p. 75.)

Fam. 13. ENDOXYLEÆ (IMMERSÆ, Fr.). Perithecia immersed, simple, with a short erumpent neck.

GEN. 1. **ENDOXYLA**, Fekl. Stroma obsolete, *sporidia allantoid*, pale brown.

*E. parallela*, Fr., Sacc. Syll. 672.

On pine. Glasgow, Mar Forest, N.B.

*E. operculata*, A. & S.

Appin, N.B.

GEN. 2. **XYLOSPHERIA**, Cooke, *Grev. vii.*, 86. Perithecia innate, immersed, growing on wood. Sporidia continuous, or septate, brown.

\* **ANTHOSTOMA**. *Sporidia continuous*.

*X. melanotes*, B. & Br., Sacc. Syll. 1097; *Hdbk.* 2632. (= *Schmidtii*, Nke.).

On oak palings, Batheaston; on ash. King's Lynn, Ringstead, Leatherhead.

*X. xylostei*, Pers., Sacc. Syll. 1122; *Hdbk.* 2641.

On honeysuckle. King's Cliffe, N. Wootton.

\*\* **PHÆOSPERMA**. *Sporidia uniseptate*.

*X. anserina*, Pers., Sacc. Syll. 2842; *Hdbk.* 2637.

On willow, etc. Shrewsbury, Lynn.

*X. apiculata*, Curr., Sacc. Syll. 2845; *Hdbk.* 2635.

On dead wood. Shere, Weybridge, Chiswick.

\* \* **KALMUSIA.** *Sporidia 3 or multiseptate.*

X. hemitapha, *B. & Br.*, *Sacc. Syll.* 3375 ; *Hdbk.* 2634.

On oak. Bath, Shere.

X. hypotephra, *B. & Br.*, *Sacc. Syll.* 3377 ; *Hdbk.* 2633.

On oak and beech. King's Cliffe ; Leigh Wood, Bristol ;  
Elton, Norths ; Terrington St. Clements.

GEN. 3. **THEYRIDIVM.** *Stroma effused, woody.*

*Sporidia muriform.*

T. lividum, *Pers.*, *Sacc. Syll.* 3991.

On dead branches of ivy, etc. Appin, Forres, N.B.

Fam. 14. **OBTECTÆ**, *Fries.* Perithecia corticolous, innate, covered.

GEN. 1. **MASSARIA.** *Sporidia involved in a hyaline mucus, oozing out and usually blackening the matrix.*

\* **MASSARIELLA.** *Sporidia bilocular, dingy.*

M. bufonia, *B. & Br.*, *Sacc. Syll.* 2705 ; *Hdbk.* 2532.

On dead branches of oak. Weybridge, Easton, N. Wootton,  
Eltham.

M. Curreyi, *Tul.*, *Sacc. Syll.* 2709 ; *Hdbk.* 2534.

On lime. Blackheath, Eltham Park, Weybridge ; Morden  
College Garden, Oxford.

M. scoriadea, *Fr.*, *Sacc. Syll.* 1127 ; *Hdbk.* 2615.

On birch. Orton Wood, Capel Curig.

\* \* **EUMASSARIA.** *Sporidia 2 to many septate, brown.*

M. foedans, *Fr.*, *Sacc. Syll.* 2852 ; *Hdbk.* 2529 (= *amblyospora*,  
*B. & Br.*).

On elm. Jedburgh, Batheaston, Tooting, Eltham, Black-  
heath, Trefriew.

M. pupula, *Fr.*, *Sacc. Syll.* 2850 ; *Hdbk.* 2530.

On *Philadelphus*. Apethorpe.

M. gigaspora, *Fckl.*, *Sacc. Syll.* 2860 ; *Hdbk.* 2531 (in part).  
Blackheath, Darenth.

M. inquinans, *Tode.*, *Sacc. Syll.* 2861 ; *Hdbk.* 2531 (in part).

On *Acer*. Sydenham, Hampstead, Somerset, Terrington.

M. argus, *B. & Br.*, *Sacc. Syll.* 2868 ; *Hdbk.* 2528.

On birch. Spye Park, Wilts ; Surrey, Weybridge.

M. macrospora, *Desm.*, *Sacc. Syll.* 2880 ; *Hdbk.* 2521.

Bath, Bowood, King's Lynn.

\* \* **MASSARINA.** *Sporidia 2 or many septate, hyaline.*

*M. eburnea*, Tul., Sacc. Syll. 3390; Hdbk. 2533.

On beech. Shere.

*M. tiliae*, Ph. & Pl., Sacc. Syll. 3392.

On decorticated lime. Forres, N.B.

\*\* **PLEOMASSARIA.** *Sporidia muriform.*

*M. siparia*, B. & Br., Sacc. Syll. 3708; Hdbk. 2527.

On birch. Spye Park, Wilts; Blackheath, Hampstead, N. Wootton.

*M. holochista*, B. & Br., Sacc. Syll. 3709; Hdbk. 2535.

On Alder. Spye Park, Wilts.

*M. rhodostoma*, A. & S., Sacc. Syll. 3711.

On *Rhamnus frangula*. Lynn.

GEN. 2. **ENCHNOA.** Perithecia hairy, sporidia destitute of mucus, sausage-shaped, hyaline or olive.

*E. infernalis*, Kze. & Fr., Sacc. Syll. 372 (= *glis*, B. & Curr.).

On oak. Wrekin, Salop; Weybridge, Bishop's Wood, Sydenham.

*E. lanata*, Fr., Sacc. Syll. 372; Hdbk. 2652.

On birch. Appin, N.B.

GEN. 3. **CRYPTOSPHERIA**, Grev. Perithecia rather densely gregarious.

*Sporidia sausage-shaped.*

*C. millepunctata*, Grev., Sacc. Syll. 675; Hdbk. 2656 (= *pruinosa*, Fr.).

On ash. Common.

*C. ocellata*, Fr., Sacc. Syll. 680; Hdbk. 2658.

On branches of ash, willow, etc. Pentrich.

GEN. 4. **PHYSALOSPORA.** Perithecia rather solid, scattered, covered.

\* *Sporidia 8, ovoid or oblong, hyaline.*

*P. corni*, Sacc., Sacc. Syll. 1659.

On *Cornus sanguinea*. Shrewsbury.

*P. rosicola*, Fckl., Sacc. Syll. 1662.

On *Rosa*. Kew.

\*\* **DITOPELLA.** *Sporidia numerous.*

*P. fusispora*, Not., Sacc. Syll. 1735; Hdbk. 2663.

On alder. Shere, Irstead, Spye Park, Wilts; Southgate Weybridge, North Wootton, Forden.

*P. farcta*, *B. & Br.*, *Sacc. Syll.* 1737 ; *Hdbk.* 2659.

On elm. Batheaston, Lynn.

*P. Vizeana*, *S. & Sp.*, *Sacc. Syll.* 1738.

On stems of *Buxus*. Milton, Forden.

GEN. 5. **ENDOPHLEA**, *Fr.* Corticolous, scattered, covered.  
Sporidia 1 or many septate.

\* **DIDYMELLA**. *Sporidia elliptical, 1 septate, hyaline.*

*E. appianata*, *Nsl.*, *Sacc. Syll.* 2130.

On *Rubus idaeus*, raspberry, etc. Worcester, Forden, Shrewsbury.

*E. corni*, *Sow.*, *Sacc. Syll.* 2133 ; *Hdbk.* 2733.

On dogwood.

\*\* **CHOROSTATE**. *Sporidia subfusiform, uniseptate, hyaline.*

*E. salicella*, *Fr.*, *Sacc. Syll.* 2413 ; *Hdbk.* 2657.

On willow. Kew, Langley, Terrington, Wimbledon, Hampstead.

*E. sphingiocarpa*, *Oud.*, *Sacc. Syll.* 2414.

On *Cornus alba*. Kew.

\*\* **METASPHERIA**. *Sporidia multiseptate, hyaline.*

*E. persistens*, *B. & Br.*, *Sacc. Syll.* 3430.

On rose. King's Cliffe.

*E. sepincola*, *Fr.*, *Sacc. Syll.* 3433 ; *Hdbk.* 2665.

On *Cornus sanguinea*. Hampstead, Shrewsbury.

*E. Ashwelliana*, *Curr.*, *Sacc. Syll.* 3446 ; *Hdbk.* 2669.

On fir branches. Weybridge.

GEN. 6. **ANTHOSTOMA**. *Sporidia continuous, brown.*

\* **ANTHOSTOMELLA**. *Sporidia not appendiculate.*

*A. clypeata*, *Not.*, *Sac. Syll.* 1051 ; *Hdbk.* 2670.

On *Rubus* and *Epilobium*. Weybridge, Shrewsbury, Forres,  
Loch Lomond, Appin, N.B.

\*\* **ENTOSORDARIA**. *Sporidia appendiculate.*

*A. appendiculosa*, *B. & Br.*, *Sacc. Syll.* 1064 ; *Hdbk.* 2678.

On dead bramble. Batheaston, Weybridge, Twycross.

GEN. 7. **DIDYMOSPHERIA**. *Sporidia uniseptate, coloured.*

\* *Perithecia membranaceous.*

*D. trivialis*, *B. & Br.*, *Sacc. Syll.* 2658 ; *Hdbk.* 2673.

On *Cornus*. Batheaston, Wilts.

*D. celata*, Curr., Sacc. Syll. 2663 ; Hdbk. 2640.

On wych elm.

*D. dochmia*, B. & Br., Sacc. Syll. 2664.

On *Ulmus*. Batheaston.

**\*\* MICROTHELIA.** *Blackened round the ostiolum.*

*D. epidermidis*, Fr., Sacc. Syll. 2677 ; Hdbk. 2676.

On privet, clematis, elder, bramble, gooseberry, *Araucaria*, etc. King's Cliffe, Neatishead, Weybridge, Greenhythe, Apethorpe.

*D. diplospora*, Cke., Sacc. Syll. 2681 ; Hdbk. 2677.

On bramble. Highgate, Hasbro', Norfolk.

*D. futilis*, B. & Br., Sacc. Syll. 2689 ; Hdbk. 2674.

On *Rosa*. King's Cliffe, Batheaston.

*D. oblitescens*, B. & Br., Sacc. Syll. 2692 ; Hdbk. 2675.

On twigs of *Cornus*. Spye Park, Wilts.

*D. anserina*, B. & Br., *Grevillea*, xvii., p. 91.

On bark. Shrewsbury.

GEN. 8. **LEPTOSPHERIA.** *Sporidia multiseptate, coloured.*

**\* GENUINA.** *Perithecia not clypeate.*

*L. abbreviata*, Cke., Sacc. Syll. 2945 ; Hdbk. 2683.

On dead bramble. Shere.

*L. Tamaricis*, Grev., Sacc. Syll. 2946 ; Hdbk. 2681.

On *Tamarix gallica*. Dover, Eastbourne, Appin N.B.

*L. Cookei*, Pir., Sacc. Syll. 2954.

On vine twigs. Terrington.

*L. fuscella*, B. & Br., Sacc. Syll. 2959 ; Hdbk. 2679.

On rose twigs. Twycross, Barnet.

*L. vagabunda*, Sacc., Sacc. Syll. 2963.

On *Salix Babylonica*. Kew.

**\*\* CLYPEOSPHÆRIA.** *Perithecia clypeate.*

*L. Notarisii*, Fckl., Sacc. Syll. 3189.

On *Rubus* and *Epilobium*. Highgate, Lynn.

*L. mamillana*, Fr., Sacc. Syll. 3190.

On oak. Castle Rising, Leatherhead.

GEN. 9. **DELACOUREA.** *Sporidia muriform, coloured.*

**\* PLEOSPORA.** *Asci octosporous.*

*D. eustegia*, Cke., Sacc. Syll. 3759 ; Hdbk. 2682.

On willow twigs. Swanscombe, Hampstead.

*D. samaræ*, Fckl., Sacc. Syll. 3785.

On fruit of ash. Forden, Lynn.

## SYNOPSIS PYRENOMYCETUM.

(Continued from Vol. xvii., p. 93.)

*Fam. 15. CAULICOLÆ, Fr. S. M. II., 503. Immerso-innatæ, plerumque in caulibus herbarum emortuis obviæ.*

**GEN. 1. PHOMATOSPORA, Sacc.** Perithecia tecta v. erumpentia. Sporidia continua, hyalina.

\* *GENUINA. Aparaphysati.*

- |  |   |
|--|---|
| 4335. Berkeleyi, <i>Sacc.</i> ... 1650 | 4338. molluginis, <i>Mont.</i> 1655         |
| = <i>phomatospora</i> , <i>B.</i>      | 4339. argyrostigma, <i>Berk.</i> 1654       |
| 4336. argentina, <i>Sp.</i> ... 1651   | 4340. daticæ, <i>Hark.</i> ... 6382         |
| 4337. ovalis, <i>Pass.</i> ... 1653    | 4341. endopteris, <i>Ph. &amp; Pl.</i> 6383 |

\*\* *PHYSALOSPORA. Paraphysati.*

- |   |  |
|---|--|
| 4342. euphorbiæ, <i>P. &amp; P.</i> 1666    | 4356. phlyctænoides, <i>B. &amp; C.</i> ... 1705 |
| 4343. minutula, <i>S. &amp; S.</i> 1667     |  |
| 4344. astragali, <i>Lasch.</i> ... 1668     | 4357. Ludwigiae, <i>Oke.</i> ... 1720            |
| 4345. disrupta, <i>B. &amp; C.</i> ... 1672 | 4358. œnanthes, <i>Cr.</i> ... 1726              |
| 4346. hypericina, <i>B. &amp; C.</i> 1682   | 4359. obionis, <i>Cr.</i> ... 1728               |
| 4347. minutella, <i>Peck.</i> ... 1686      | 4360. geranii, <i>C. &amp; H.</i> ... 6384       |
| 4348. œnotheræ, <i>B. &amp; C.</i> 1687     | 4361. paragnaxa, <i>Sp.</i> ... 6391             |
| 4349. althææ, <i>Kirch.</i> ... 1691        | 4362. corallinarum, <i>Cr.</i> 1727              |
| 4350. eunotia, <i>B. &amp; C.</i> ... 1693  | 4363. hepaticarum, <i>Cr.</i> 1729               |
| 4351. echii, <i>Kirch.</i> ... 1694         | 4364. lecanoræ, <i>Stein.</i> ... 6393           |
| 4352. eupatorii, <i>Kirch.</i> ... 1695     | 4365. collemæ, <i>Stein.</i> ... 6394            |
| 4353. palustris, <i>Mont.</i> ... 1697      | 4366. microthelia, <i>Wallr.</i> 6395            |
| 4354. trochiformis, <i>Pr.</i> 1699         | 4367. psoromoides, <i>Borr.</i> 6396             |
| 4355. atrosplendens, <i>Pr.</i> 1700        |  |

**GEN. 2. APIOSPORA.** Perithecia tecta. Sporidia clavato-pyriformia, prope basim uniseptata.

- |                                      |  |
|--------------------------------------|--|
| 4368. Montagnei, <i>Sacc.</i> 2098   | 4371. Lloydii, <i>Cr.</i> ... 2101         |
| = <i>apiospora</i> , <i>Mont.</i>    | 4372. inserta, <i>B. &amp; C.</i> ... 2102 |
| 4369. striola, <i>Pass.</i> ... 2099 | 4373. punctum, <i>S. &amp; S.</i> 2103     |
| 4370. parallela, <i>K.</i> ... 2100  |  |

**GEN. 3. DIDYMELLA.** Sporidia didyma, hyalina.

\* *In Dicotyledoneis.*

- |   |   |
|---|---|
| 4374. vincetoxici, <i>Not.</i> ... 2153 | 4379. megarrhizæ, <i>C. &amp; H.</i> 6478   |
| 4375. effusa, <i>Nssl.</i> ... 2154     | 4380. media, <i>Sacc.</i> ... 2157          |
| 4376. melonis, <i>Pass.</i> ... 6477    | 4381. planiuscula, <i>B. &amp; Br.</i> 2158 |
| 4377. nemoralis, <i>Sacc.</i> ... 2155  | 4382. hæmatites, <i>Rob.</i> ... 2159       |
| 4378. exigua, <i>Nssl.</i> ... 2156     | 4383. hellebori, <i>Chaill.</i> ... 2160    |



4384. eupyrena, <i>Sacc.</i> ...	2161	4398. tosta, <i>B. &amp; Br.</i> ...	2172
4385. hyporrhoea, <i>Sacc.</i>	2162	4399. commanipula, <i>B. &amp;</i>	
4386. operosa, <i>Desm.</i> ...	2163	<i>B.</i> ...	2173
4387. trifolii, <i>Fckl.</i> ...	2164	4400. bryoniæ, <i>Fckl.</i> ...	2174
4388. onosmodina, <i>Pk. &amp;</i>		4401. chamæjasmæ, <i>Fckl.</i>	6484
<i>Cl.</i> ...	2165	4402. catarinæ, <i>C. &amp; E.</i> ...	2175
4389. superflua, <i>Fckl.</i> ...	2166	4403. incommiscibilis, <i>B.</i>	
4390. inconspicua, <i>Johans.</i>	6481	<i>&amp; C.</i> ...	2176
4391. lathyrina, <i>B. &amp; C.</i>	2167	4404. carduicola, <i>Cke.</i> ...	2177
4392. lupina, <i>C. &amp; H.</i> ...	6482	4405. prominens, <i>Ell. &amp;</i>	
4393. pusilla, <i>Nssl.</i> ...	2168	<i>Ev.</i> ...	7459
4394. intercepta, <i>K. &amp; Cke.</i>	2169	4406. caulicola, <i>Moug.</i> ...	2178
4395. Fuckeliana, <i>Pass.</i>	2170	4407. aggregata, <i>Lasch.</i>	2179
4396. epilobii, <i>Fckl.</i> ...	2171	4408. subexserta, <i>C. &amp; E.</i>	2180
4397. nivalis, <i>Fckl.</i> ...	6483		

**\*\* In Monocotyledoneis.**

4409. arctica, <i>Fckl.</i> ...	6485	4416. phacidiomorpha,	
4410. proximella, <i>K.</i> ...	2181	<i>Ces.</i> ...	2187
4411. culmigena, <i>Sacc.</i> ...	2182	4417. refracta, <i>Cke.</i> ...	2188
4412. intercellularis, <i>B.</i>		4418. uberina, <i>Mont.</i> ...	2189
<i>&amp; C.</i> ...	2183	4419. dioscoreæ, <i>B. &amp; C.</i>	2190
4413. juncina, <i>B. &amp; Rav.</i>	2184	4420. eumorpha, <i>B. &amp; C.</i>	2191
4414. subgemina, <i>B. &amp; C.</i>	2185	4421. combulliens, <i>B. &amp; C.</i>	2192
4415. Nebraskæ, <i>B. &amp; C.</i>	2186		

**\* \* In Acotyledoneis.**

4422. hyphenis, <i>Cke.</i> ...	2193	4425. sphinctrinodes, <i>Zw.</i>	6486
4423. lophospora, <i>S. &amp; S.</i>	2194	4426. ulothii, <i>Korb.</i> ...	6487
4424. pteridicola, <i>B. &amp; C.</i>	2195	4427. epipolytropa, <i>Mudd.</i>	6488

**GEN. 4. METASPERIA.** Sporidia pluriseptata, hyalina.

**A. In Dicotyledoneis.**

**\* Sporidia 2-4 septata.**

4428. bœhmeriæ, <i>Rabh.</i>	3401	4440. senecionis, <i>Fckl.</i> ...	3410
4429. thalictri, <i>Wint.</i> ...	3402	4441. metuloidea, <i>K. &amp; C.</i>	3411
4430. ocellata, <i>Nsl.</i> ...	3403	4442. algeriensis, <i>S. &amp; B.</i>	7022
4431. tritorulosa, <i>B. &amp; B.</i>	3404	4443. lathyri, <i>Sacc.</i> ...	3412
4432. annæ, <i>Oud.</i> ...	7019	4444. depressula, <i>S. &amp; R.</i>	7023
4433. rustica, <i>K.</i> ...	3405	4445. affinis, <i>Karst.</i> ...	3413
4434. trollii, <i>Karst.</i> ...	7020	4446. coniformis, <i>Fckl.</i> ...	3414
4435. rupicola, <i>Sacc.</i> ...	3406	4447. brachiata, <i>K. &amp; C.</i>	3415
4436. xerophila, <i>S. &amp; M.</i>	7021	4448. helianthemis, <i>Awd.</i>	3416
4437. macrospora, <i>Fckl.</i>	3407	4449. scotophila, <i>D.R. &amp; M.</i>	3417
4438. ? trichostoma, <i>Pass.</i>	3408	4450. galiorum, <i>R. &amp;</i>	
4439. agminalis, <i>Lev.</i> ...	3409	<i>Desm.</i> ...	3418

- |  |   |
|--|---|
| 4451. ferulina, <i>D. R. &amp; M.</i> 3419 | 4456. boucera, <i>Cke. &amp; Ell.</i> 3423  |
| 4452. ferulæ, <i>B. &amp; A.</i> ... 7024  | 4457. sacculus, <i>P. &amp; B.</i> ... 3424 |
| 4453. Thwaitesii, <i>B. &amp; Br.</i> 3420 | 4458. kali, <i>Fab.</i> ... 6147            |
| 4454. complanata, <i>Tode.</i> 3421        | 4459. brunnea, <i>Sacc.</i> ... 3427        |
| 4455. rubella, <i>S. &amp; M.</i> ... 3422 | 4460. primulicola, <i>Pat.</i> 7493         |

\*\* *Sporidia* 5-10 septata.

- |   |  |
|---|--|
| 4461. inulina, <i>D. R. &amp; M.</i> 3425 | 4463. dissiliens, <i>Cke. &amp;</i>    |
| 4462. eburnea, <i>Nsl.</i> ... 3426       | <i>Ell.</i> ... 3428                   |
|   | 4464. canadensis, <i>Not.</i> ... 3429 |

B. In *Monocotyledoneis*.

\* *Sporidia* 2-3 septata.

- |  |   |
|--|---|
| 4465. cocogena, <i>Cke.</i> ... 3469       | 4477. avenæ, <i>Awd.</i> ... 3481         |
| 4466. lacustris, <i>Fchl.</i> ... 3470     | 4478. cattanei, <i>S.</i> ... 3482        |
| 4467. neglecta, <i>Nsl.</i> ... 3471       | 4479. panicorum, <i>Cke.</i> ... 3483     |
| 4468. leersia, <i>Pass.</i> ... 3472       | 4480. recutita, <i>Fr.</i> ... 3484       |
| 4469. discors, <i>S. &amp; E.</i> ... 3473 | 4481. cumana, <i>S. &amp; Sp.</i> 3486    |
| 4470. graminum, <i>Sacc.</i> ... 3474      | 4482. carectorum, <i>B. &amp; C.</i> 3487 |
| 4471. coccodes, <i>K.</i> ... 3475         | 4483. junci, <i>Oud.</i> ... 3488         |
| 4472. culmifida, <i>K.</i> ... 3476        | 4484. palmetta, <i>Cke.</i> ... 3489      |
| 4473. anarithma, <i>B. &amp; Br.</i> 3477  | 4485. iridicola, <i>Sacc.</i> ... 3490    |
| 4474. anarithmoides, <i>S.</i>             | 4486. iridis, <i>Desm.</i> ... 3491       |
| & <i>S.</i> ... 3478                       | 4487. ceratotheca, <i>Cke.</i> 6150       |
| 4475. poæ, <i>Sacc.</i> ... 3479           | 4488. marchaliana, <i>Sacc.</i> 7038      |
| 4476. brachypodii, <i>Pass.</i> 3480       | 4489. nigrotingens, <i>Mont.</i> 7492     |

\*\* *Sporidia* plerumque 4 septata.

- |  |                                       |
|--|---------------------------------------|
| 4490. craterium, <i>Mont.</i> ... 3492     | 4493. spatharum, <i>Ces.</i> ... 3495 |
| 4491. calamina, <i>D. R. &amp; M.</i> 3493 | 4494. pinnarum, <i>Pass.</i> ... 3496 |
| 4492. Bellyneckii, <i>West.</i> 3494       |                                       |

\*\*\* *Sporidia* 5-pluriseptata.

- |                                       |  |
|---------------------------------------|--|
| 4495. hyalospora, <i>Sacc.</i> 3497   | 4503. defodiens, <i>Ell.</i> ... 3505    |
| 4496. rachidis, <i>Pass.</i> ... 3498 | 4504. puccinioides, <i>Sp.</i> 3506      |
| 4497. sabuletorum, <i>B. &amp;</i>    | 4505. scirpina, <i>Wint.</i> ... 3507    |
| <i>Br.</i> ... 3499                   | 4506. Debeauxii, <i>S. &amp; R.</i> 3508 |
| 4498. fusariispora, <i>Mont.</i> 3500 | 4507. fur, <i>Ehr.</i> ... 3509          |
| 4499. oryzæ, <i>Catt.</i> ... 3501    | 4508. profuga, <i>Ehr.</i> ... 3510      |
| 4500. rimularum, <i>Cke.</i> ... 3502 | 4509. Lindsayana, <i>Curr.</i> 6151      |
| 4501. Roumeguerii, <i>Sacc.</i> 3503  | 4510. acorella, <i>Cke.</i> ... 7040     |
| 4502. grandispora, <i>Sacc.</i> 3504  |  |

C. In *Acotyledoneis*.

- |  |                                    |
|--|------------------------------------|
| 4511. lycopodii, <i>B. &amp; C.</i> 3511 | 4513. epipteridea, <i>C. &amp;</i> |
| 4512. plegmaria, <i>Ces.</i> ... 3512    | <i>H.</i> ... 3513                 |

- |   |                         |
|---|-------------------------|
| 4514. stereocaulorum,                   | 4518. lichenis-sordidi, |
| <i>Arn.</i> ... 3514                    | <i>Mass.</i> ... 3518   |
| 4515. psoræ, <i>Anzi.</i> ... 3515      | 4519. leptogiophila,    |
| 4516. lepidotæ, <i>Anzi.</i> ... 3516   | <i>Minks.</i> ... 7041  |
| 4517. cetraricola, <i>Nyl.</i> ... 3517 |                         |

D. CERIOSPORA. *Sporidia* 1-3 septata, mucronata.

- |  |  |
|--|--|
| 4520. fuscescens, <i>Nsl.</i> ... 3521 | 4521. bonaerensis, <i>Sp.</i> ... 3522 |
|--|--|

E. DILOPHIA. *Sporidia* fili-fusoides, pluriseptata, utrinque setifera.

- |  |                                       |
|--|---------------------------------------|
| 4522. graminis, <i>Fckl.</i> ... 4104  | 4524. punctata, <i>Wint.</i> ... 7149 |
| 4523. sabalensis, <i>Cke.</i> ... 4105 |                                       |

GEN. 5. **RAPHIDOSPORA.** *Sporidia* filiformia, hyalina.

\* *In Dicotyledoneis.*

- |   |  |
|---|--|
| 4525. rubella, <i>Pers.</i> ... 4017    | 4547. solidaginis, <i>Schw.</i> 4034       |
| = <i>porphyrogona</i> , <i>Tode.</i>    | 4548. stenosporus, <i>Karst.</i> 7132      |
| 4526. olivaceus, <i>Ellis</i> ... 7127  | 4549. Matthiæi, <i>West.</i> ... 4035      |
| 4527. vulgaris, <i>Sacc.</i> ... 4018   | 4550. dictamni, <i>Fckl.</i> ... 4036      |
| 4528. urticæ, <i>Rabh.</i> ... 4019     | 4551. hyperici, <i>Rabh.</i> ... 4037      |
| 4529. ulnospora, <i>Cke.</i> ... 4020   | 4552. aconiti, <i>Bon.</i> ... 4038        |
| 4530. medusæ, <i>E. &amp; E.</i> 7128   | 4553. nigrificans, <i>Cke.</i> ... 4039    |
| 4531. cesatiana, <i>Mont.</i> ... 4021  | 4554. hesperidis, <i>Sacc.</i> ... 4040    |
| = <i>eckii</i> , <i>Rehm.</i>           | 4555. brachystoma, <i>Sacc.</i> 4041       |
| 4532. collapsa, <i>C. &amp; E.</i> 4022 | 4556. brachyascus, <i>Wint.</i> 4042       |
| 4533. rudis, <i>Reiss.</i> ... 4023     | 4557. campospora, <i>Sacc.</i> 4043        |
| 4534. claviger, <i>Hark.</i> ... 7129   | 4558. calaminthæ, <i>Pass.</i> 4044        |
| 4535. montellica, <i>Sacc.</i> 4024     | 4559. euspora, <i>Sacc.</i> ... 4045       |
| 4536. humuli, <i>Karst.</i> ... 7130    | 4560. affinis, <i>Sacc.</i> ... 4046       |
| 4537. acuminata, <i>Sow.</i> ... 4025   | 4561. spina, <i>Speg.</i> ... 4047         |
| 4538. compressa, <i>Rehm.</i> 4026      | 4562. eryngii, <i>Oud.</i> ... 4048        |
| 4539. cirsii, <i>Karst.</i> ... 4027    | 4563. vitalbæ, <i>Sacc.</i> ... 4049       |
| 4540. incomptus, <i>Nsl.</i> ... 7131   | 4564. tenella, <i>Auers.</i> ... 4050      |
| 4541. bardanæ, <i>Fckl.</i> ... 4028    | 4565. characias, <i>Fab.</i> ... 4051      |
| 4542. anguillida, <i>Cke.</i> ... 4029  | 4566. persolina, <i>Not.</i> ... 4052      |
| 4543. georginæ, <i>Fckl.</i> ... 4030   | 4567. morthieri, <i>S. &amp; B.</i> 7133   |
| 4544. eburnensis, <i>Sacc.</i> 4031     | 4568. adnata, <i>Bon.</i> ... 4053         |
| 4545. xanthii, <i>Lasch.</i> ... 4032   | 4569. fulgida, <i>C. &amp; E.</i> ... 4054 |
| 4546. scolymi, <i>Mont.</i> ... 4033    | 4570. glomus, <i>B. &amp; C.</i> ... 4055  |

\*\* *In Monocotyledoneis.*

- |  |  |
|--|--|
| 4571. graminis, <i>Sacc.</i> ... 4064        | 4576. culmorum, <i>Cr.</i> ... 4069      |
| 4572. cariceti, <i>B. &amp; Br.</i> ... 4065 | 4577. eucrypta, <i>B. &amp; Br.</i> 4070 |
| 4573. coffeata, <i>Berk.</i> ... 4066        | 4578. leptosperma, <i>Speg.</i> 4071     |
| 4574. stictispora, <i>C. &amp; E.</i> 4067   | 4579. helicospora, <i>B. &amp;</i>       |
| 4575. littoralis, <i>Cr.</i> ... 4068        | <i>Br.</i> ... 4072                      |

4580. *maritima*, Sacc. ... 4073    4583. *oedema*, Mont. ... 4076  
 4581. *filispora*, C. & E. 4074    4584. *compar*, Karst. ... 7138  
 4582. *verminosa*, Mont. 4075    4585. *versisporus*, E. & M. 7139

\* \* \* *In Acotyledoneis.*

4586. *peltigerarum*, Arn. 7140    4589. *Steinii*, Korb. ... 7141  
 4587. *peltigeræ*, Mont.... 4077    4590. *Korberi*, Stein. ... 7142  
 4588. *thallicola*, Not. ... 4078    4591. *palustris*, Schr. ... 7143

\* \* \* OPHIOCHÆTA. *Peritheciis setulosis.*

4592. *penicillus*, Schw. 4079    4595. *chætophora*, Cr. ... 4082  
 4593. *herpotricha*, Fr.... 4080    4596. *incompta*, Not. ... 4083  
 4594. *pellita*, Fekl. ... 4081

\* \* \* *Species imperfectæ cognitæ.*

4597. *comata*, Not. ... 4084    4599. *isiaca*, Ces. ... 4086  
 4598. *Hubneri*, Rabh. ... 4085    4600. *montagneana*, Lacr. 4087

NOTE.—Nos. 4208 to 4214 must be deleted; the species under these numbers having been entered before, and repeated in error.

## THE REV. M. J. BERKELEY.

It is with profound regret that we have to announce the death of our esteemed friend and valued coadjutor, the Rev. Miles Joseph Berkeley, M.A., F.R.S. This event took place at Sibbertoft Vicarage, near Market Harborough, on the 30th July, in his 86th year. In all directions we may look for accounts of his long and active life, which his many friends will be anxious to record. His services to mycology in Great Britain cannot be overrated. The book which, perhaps of all others, will be his monument, is the one containing the Fungi in Sir William Hooker's "British Flora," and this was, for about a quarter of a century, the text book for English students. "Outlines of British Fungology," was a more recent work, but it was a publisher's book, and, for the most part, a barren catalogue, which had to be compressed that it should only occupy a given space. If the condition of knowledge of fungi in 1836 be taken into account, it will be seen that the volume of "British Flora" devoted to this subject was fully abreast of the time, and represented a vast amount of earnest and careful work, in face of many difficulties, brought to a successful issue. Read by the light of 1889, the book of 1836 will seem to be very imperfect, but when compared with all which preceded it, it must be acknowledged as a decided advance. Even now it may often be consulted with advantage. Actively working at fungi for more than fifty years, and in constant and familiar correspondence with the veteran Fries, it was to be expected that Berkeley should obtain and maintain the lead in all that concerned mycology in this country. With him the old race of mycologists is extinct. The elder and younger Fries, Mon-

tagne, Trog, Vittadini, Corda, &c., were amongst his correspondents, and to the last he was opposed to any innovations on what they taught, although controversy was his great aversion. He has often expressed himself in our hearing, as one who disliked controversy because it consumed so much time, which might be turned to better account, and which was calculated to raise rather than to assuage ill-feeling.

It was surprising, even to his friends, how cyclopædic was his knowledge, whether of the pedigree of a racehorse, or the pedigree of a garden flower, and what a large amount of work he could accomplish. In this he was assisted by an extraordinary memory, and, perhaps, trusted too much to memory in latter years, when it did not possess all its old vigour.

Undoubtedly the "Introduction to Cryptogamic Botany," published in 1857, was a valuable and learned work, but so heavy and compact in style that only very advanced students could make use of it with advantage. Because it was heavy and dull it never got beyond a *first* edition, and *not* because it failed in accuracy or method.

At first, and when a young man, he devoted himself to entomology, but ultimately his principal attention was devoted to the diseases of plants, including fungi, with occasional diversions in favour of British Algæ and mosses. It is in connection with fungi that his name will be best known to our readers, and as the "Prince of British Mycologists" his name will go down to posterity. Not until he was past eighty years of age did he wholly abandon his work with fungi, although his Herbarium was sent away in 1879. No absolute estimate could be made of the number of new species of fungi which were first described either by Berkeley alone, or in conjunction with others, during an active half century. An approximation may, perhaps, be made when the last volume of Saccardo's "Sylloge" is published. There are not less than five thousand types in the Berkeley Herbarium, now located in the Herbarium of the Royal Gardens, Kew, and there are other types in the general Herbarium which are not to be found in the Berkeley Herbarium. North American Fungi, contributed by Curtis, Sprague, Ravenal, and others, were for the most part described in the early volumes of this Journal. Ceylon Fungi, contributed by Dr. Thwaites, and in many cases accompanied by coloured drawings, were described in the "Linnean Journal," as were also the Cuban Fungi collected by Wright. The Indian collections, made by Sir J. D. Hooker and others, were published in Hooker's "Journal of Botany." Australian Fungi, contributed by Baron von Mueller, F. M. Bailey, and others, were described in the "Transactions" and the "Journal of the Linnean Society," whilst the Fungi of Tasmania and New Zealand were recorded in Hooker's "Floras" of those countries. Besides the above, and the "Challenger" collections, numerous smaller collections were determined and published from time to time partly in the three series of Hooker's "Journal of Botany" and partly in the "Annals and Magazine of Natural History," the Journal, and

"Transactions of the Linnean Society," and various other scientific journals.

It is unnecessary to go over the ground which has been occupied by the writers of memoirs already issued, or to anticipate those in process of preparation, by a record of the papers he contributed to journals, to learned societies, or to the pages of the "Gardener's Chronicle," in which his well-known initials, "M. J. B.," constantly appeared for about five-and-forty years.

With a kind and genial disposition, a warm heart, and a benevolent presence, he was beloved in his family, in his parish, in the various societies of which he was a member, and, indeed, by all with whom he came in contact, and his death will be regretted in a wide circle, though by no means sudden or unexpected at such a ripe old age.

M. C. C.

### MEMORABILIA.

*LENTINUS CYATHUS*, B. & Br.—The species called *Lentinus scleroticola*, Murray, "Trans. Linn. Soc." II., Part ii., is identical with *Lentinus cyathus*, B. and Br., as determined by authentic specimens of both.

*CEREBELLA PASPALI*, C. & M.—The species called by Berkeley *Thecaphora inquinans*, from Ceylon, is this species.

*CEREBELLA ANDROPOGONIS*, Ces.—According to authentic specimen, *Polycystis macularis*, B. & Br., is the same.

*TRICHIA FALLAX*, Pers.—The specimens issued in Roumeguere's "Fungi Gallici," No. 42, under the name of *Licea circumscissa*, Pers., are the above *Trichia*, as far as our copy is concerned.

*AGARICUS (ARMILLARIA) FOCALIS*, Fr., var. *GOLIATHUS*.—This splendid *Armillaria* has been found by C. H. Spencer Perceval, Esq., near Morpeth. It seems doubtful whether it should be referred, as a variety, to *Agaricus focalis*, and not maintained as a separate species. In one specimen the pileus was six inches in diameter, and the stem  $1\frac{1}{2}$  inches thick and five inches long.

*VINE MILDEW*.—The following extract from one of Berkeley's letters may be of some interest:—"You are wrong in supposing that Tucker was the first discoverer of the Vine Mildew. He got all his information from myself and Mr. Hoffman, and because he took great pains, and showed considerable intelligence in the matter, the species was named after him by way of encouragement. He was, however, foolish enough afterwards, in a Kentish paper, to throw doubt upon our opinions without any sufficient grounds for doing so. His claims were entirely ignored by the French Government, and £80 out of the money distributed by the French Government was given to a man who was long after Tucker in the application of sulphur, £20 being assigned to me, who was really the originator of the whole matter."

## NEW BRITISH FUNGI.

BY M. C. COOKE.

(Continued from Vol. XVII., p. 80.)

**Marasmius prasioides**, Fries Hym. Eur. 468.

*Strong scented.* Pileus rather membranaceous, tough, campanulate-convex, then flattened, obtuse, rugulose; stem hollow, pallid above, becoming smooth, thickened downwards, pallid rufous or fuscous, somewhat tomentose; gills adnexed, a little crowded, at first white.

Amongst oak leaves. Scarborough.

Odour of garlic strong and persistent. Pileus becoming whitish, with the disc darker, scarcely an inch in diameter; stem 3 inches long, and a line thick, tough, with the curved dilated base adherent to dead leaves.

**Marasmius torquescens**, Quelet, Fr. Hym. Eur. 471.

The specimens in Herb. Berkeley from Glamis, referred to this species, are found to have brown spores, and to be really some small species of *Naucoria*. So that the Scotch locality is an error, supposing these specimens to have been the authority, which it is presumed that they were.

**Arcyria dictyonema**, Rost. Mon. 279.

Peridia ovate, stipitate; stems arising from a substratum; capillitium not very much divided, formed of cylindrical tubes, of varied dimensions, usually 3-5  $\mu$  thick, projections formed by rigid spinose prickles 1-7  $\mu$  high, these spines being joined in a reticulation at the base. Spores even, 9-10  $\mu$  diam.

On rotten wood. Smethwick (A. Camm).

Above is the diagnosis, as given by Rostafinski, reproduced by Saccardo (*Syll.* vii., p. 431), but our specimens differ in scarcely being stipitate, in the colour being olive, in the threads of the capillitium being as thick as the spores, in the projections not being spines, but merely the edges of the reticulations, and in the spores not being entirely even, but minutely warted.

**Strumella strobilina**, Cke. & Mass.

Pustules gregarious, erumpent, rather prominent, almost globose, black ( $\frac{1}{4}$  mm. diam). Hyphæ simple, or furcate, filiform. Conidia fusiform, uniseptate, acute at both ends, sooty olive ( $15-17 \times 2\frac{1}{2}$   $\mu$ ).

On fir cones. Newcastle.

**Glœosporium Pelargonii**, Cke. & Mass.

Hypophyllum. Acervulis sparsis, bullatis, pallidis. Conidiis tereti-oblongis, utrinque rotundatis, hyalinis,  $20 \times 4-5$   $\mu$ .

On living leaves of ivy-leaf Pelargoniums. Kew.

## REVISION OF THELEPHOREÆ.

The first part of Mr. Massee's revision of the *Thelephoreæ* includes four genera, viz. :—*Heterobasidium*, with one species ; *Coniophora*, with 49 species ; *Peniophora*, with 48 species ; and *Asterostroma*, with five species. The following are those related to the British Flora :—

- Coniophora olivacea*, *Cooke Grev. viii.* 89.
- Coniophora pulverulenta*, *Cooke Grev. viii.* 89.
- Coniophora puteana*, *Cooke Grev. viii.* 88.
- Coniophora cinnamomea*, *Mass. p.* 130.
- Coniophora umbrina*, *Mass. p.* 131.
- Coniophora incrustans*, *Mass. p.* 132.
- Coniophora arida*, *Karst. M. F.* 319.
- Coniophora sulphurea*, *Mass. p.* 132.
- Coniophora subdealbata*, *Mass. p.* 135.
- Coniophora Berkeleyi*, *Mass. p.* 135.
- Coniophora Cookei*, *Mass. p.* 136.
- Coniophora ochracea*, *Mass. p.* 137.
- Coniophora membranacea*, *Cooke Grev. viii.* 89.
- Peniophora quercina*, *Cooke Grev. viii.* 20.
- Peniophora pezizoides*, *Mass. p.* 141.
- Peniophora gigantea*, *Mass. p.* 142.
- Peniophora limitata*, *Cooke Grev. viii.* 20.
- Peniophora rosea*, *Mass. p.* 146.
- Peniophora incarnata*, *Mass. p.* 147.
- Peniophora cinerea*, *Cooke Grev. viii.* 20.
- Peniophora pubera*, *Mass. p.* 149.
- Peniophora ochracea*, *Mass. p.* 150.
- Peniophora scotica*, *Mass. p.* 152.
- Peniophora velutina*, *Cooke Grev. viii.* 21.
- Peniophora rimosa*, *Cooke Grev. ix.* 94.
- Peniophora terrestris*, *Mass. p.* 153.
- Peniophora hydnoides*, *Cke. & Mass. p.* 154.

Entirely new species, now first described, are :—

***Coniophora incrustans***, *Mass.* Effused, thin, indeterminate, hymenium submentose, pallid ; spores very pale ochre,  $15-17 \times 8-10 \mu$ .

Running over leaves and twigs. Apethorpe.

***Coniophora Berkeleyi***, *Mass.* Effused, thick, determinate ; hymenium brown, becoming purplish, cracked, interstices silky ; spores ellipsoid, apiculate at the base, tawny ( $12 \times 8 \mu$ ).

On decorticated wood. (*Herb. Berk.* 3982a.)

***Coniophora Cookei***, *Mass.* Effused, fibrillose, membranaceous, circumference byssoid, pallid ; hymenium olive-ferruginous, pulverulent ; spores elliptic, ochre ( $10 \times 6 \mu$ ).

On rotting wood.



**Coniophora ochracea, Mass.** Very broadly effused, somewhat membranaceous, indeterminate; hymenium pulverulent, ochraceous, spores yellowish, subglobose ( $8 \times 6-7 \mu$ ).

Inside elm bark. Kew.

**Peniophora pezizoides, Mass.** Rather coriaceous, cup-shaped then expanded, fixed at the centre, externally pallid and villose; hymenium ochraceous, velvety, continuous; cystidia fusoid, rounded at the apex, acute at the base ( $50-60 \times 20 \mu$ ). Spores globose,  $4-5 \mu$ .

On branches of horse-chestnut. Kew.

**Peniophora scotica, Mass.** Broadly effused, margin fibrillose radiate; hymenium cinnamon, velvety; cystidia sub-cylindrical ( $80-120 \times 15-20 \mu$ ). Spores ellipsoid,  $8-10 \times 6-7 \mu$ .

Inside bark. Scotland (*Herb. Berk.* 3995a.)

**Peniophora hydnoidea, Cke & Mass.** Broadly effused, thin, rather innate, indeterminate; hymenium cinereous; cystidia cylindrical-fusoid ( $70-120 \times 12-14 \mu$ ). Spores globose,  $4-5 \mu$ .

On bark. Carlisle.

## FUNGUS FORAYS, 1889.

**CRYPTOGAMIC SOCIETY OF SCOTLAND.**—The fifteenth annual conference will be held at Crieff, Perthshire, on Tuesday, the 17th September, at 10 a.m., and following days. Members will learn the place of meeting at any of the Hotels on their arrival.

**WOOLHOPE FIELD CLUB.**—The annual meeting of this Club for Fungus Forays will take place as usual during the first week in October. The neighbourhood of Ludlow has been selected for the excursions of the first two days. The short excursion for the Thursday will probably be made to Dinmore, returning in time for the annual dinner.

**HAMPSHIRE FIELD CLUB.**—Forays for two days are being organized to take place in the New Forest, but the time has not yet been definitely fixed.

**ESSEX FIELD CLUB.**—The arrangements for the annual Forays in Epping Forest are not completed, or the date fixed, on account of the uncertainty of the weather. Probably some time in October will be selected.

**HACKNEY NATURAL HISTORY SOCIETY.**—Proposals are being entertained for a day excursion in Epping Forest on a Saturday near the middle of September, but the precise date has not at present been decided upon, probably the 14th.

Other societies, which in previous years have organized small local Forays, at present have made no sign, although it seems probable that comparatively early dates would this year have a better prospect of success than later ones.

## CRYPTOGAMIC LITERATURE.

MOUTON, V. Quelques Ascomycetes nouveaux ou peu connus, in "Comptes Rendus, Soc. Roy. Bot. de Belg."

GROVE, W. B., and BAGNALL, J. E. Fungi of Warwickshire (continued), in "Midland Naturalist," June, July, Aug., 1889.

WEED, W. H. Diatom Marshes and Diatom Beds of Yellowstone National Park, in "Botanical Gazette," May, 1889.

STRICKLAND, W. W. Notes on Fungi of East Yorkshire, in "The Naturalist," June, July, 1889.

BULOW, W. Bidrag till Skanes svampflora, in "Botaniska Notiser," No. 3, 1889.

THUEMEN, F. VON. Die Pilze der Reispflanze.

ROLLAND, LEON. Cinq. Semaines a Chamonix, in "Bull. de la Société Mycologique de France."

WILLIAMS, T. A. The Status of the Algo-Lichen Hypothesis, in "American Naturalist," Jan., 1889.

STEPHANI, F. Hepaticæ Australiæ, in "Hedwigia," No. 3, 1889.

KARSTEN, P. A. Fragmenta Mycologica, xxvii., in "Hedwigia," No. 3, 1889.

KARSTEN, P. A. Fungi aliquot novi in Brasilia lecti, in "Hedwigia," No. 3, 1889.

MASSEE, G. A Monograph of the Thelephoræ, in "Journ. Linn. Society," No. 170, 1889.

GILLET, C. C. Les Hymenomycetes de France, ser. 15.

BERGESEN, F. Et lille Bidrag til Bornholms Desmidie Flora, in "Botanisk Tidsskrift," Kjobenhaven, 1889.

WEST, W. Fresh-Water Algæ of Maine, in "Journal of Botany," July, 1889.

TRAIL, J. W. H. Revision of Scotch Discomycetes, in "Scottish Naturalist," July, 1889.

LUDWIG, F. Une nouvelle espece du Batarrea (*B. Tepperiana*), in "Bull. Soc. Mycol. de France."

MASSEE, G. Revision of the Trichiaceæ, in "Journ. Roy. Micr. Soc.," June, 1889.

CRISP, F., and others. Summary of Current Researches in Cryptogamia, in "Journ. Roy. Micr. Soc.," June, 1889.

BERLESE, A. N.; SACCARDO, F.; ROUMEGUERE, C. Contributions ad Floram Mycologicam Lusitanicæ, in "Revue Mycologique," July, 1889.

BONNET, H. Du parasitisme de la Truffe, etc., in "Revue Mycologique," July, 1889.

FAUTREY, F. Champignons nouveaux trouves dans la Côte d'Or, in "Revue Mycologique," July, 1889.

GALLOWAY, B. T. Report on Vegetable Pathology of Department of Agriculture, U.S., for 1888.

KELLERMAN, W. A. Report of Botanical Department of Kansas Experimental Station for 1888.

BARCLAY, A. Descriptive List of the Uredineæ around Simla.

BARCLAY, A. The Life History of a new Cæoma on *Smilax aspera*.

CUNNINGHAM, D. D. Are choleraic comma-bacilli really efficient in determining the epidemic diffusion of cholera?

CUNNINGHAM, D. D. Notes on the Life History of *Ravenelia sessilis* and *R. stictica*.

BAMBEKE, CHARLES VAN. Recherches sur la morphologie du *Phallus impudicus*.

STEPHANI. *Dichiton perpusillum*, in "Revue Bryologique," No. 4, 1889.

PHILIBERT. Sur quelques mousses Norwegieunes, in "Revue Bryologique," No. 4, 1889.

THAXTER, R. Notes on cultures of Gymnosporangium made in 1887 and 1888, in "Botanical Gazette," July, 1889.

KISSLING, E. Zur Biologie der *Botrytis cinerea*, in "Hedwigia," No. 4, 1889.

DIETEL, P. Ueber das Vorkommen von *Puccinia perplexans* in Deutschland, in "Hedwigia," No. 4, 1889.

BLOUSKI, F. Fungi polonici novi, in "Hedwigia," No. 4, 1889.

CARRINGTON, B., and PEARSON, W. H. A New Hepatic in "Journal of Botany," Aug., 1889.

RATTRAY, J. Some New Species of Diatoms, in "Journal of Quekett Microscopical Club," July, 1889.

MUELLER, J. Lichenes Sebastianopolitani, in "Nuovo Giorn. Bot. Ital.," July, 1889.

FARNETI, R. Enumerazione dei Muschi del Bolognese, in "Nuovo Giorn. Bot. Ital.," July, 1889.

HARVEY, F. L. Fresh-water Algæ of Maine, in "Bull. Torrey Club," July, 1889.

BOLLEY, H. L. Sub-epidermal Rusts, in "Botanical Gazette," June, 1889.

FAVEL, F. VON. Development of Pyrenomycetes, in "Journ. Mycology," June, 1889.

MACADAM, R. K. North American Agarics, in "Journ. Mycol.," June, 1889.

ELLIS, J. B., and GALLOWAY, B. T. New Western Fungi, in "Journ. Mycol.," June, 1889.

ELLIS, J. B., and EVERHART, B. M. New Hyphomycetous Fungi, in "Journ. Mycol.," June, 1889.

KELLERMAN, W. A., and SWINGLE, W. T. New Species of Fungi, in "Journ. Mycol.," June, 1889.

FAIRMAN, C. E. Fungi from Western New York, in "Journ. Mycol.," June, 1889.

ELLIS, J. B., and EVERHART, B. M. On *Mucronoporus*, in "Journ. Mycol.," June, 1889.

BOLLEY, H. L. Heterocismal Pucciniæ, in "Amer. Mon. Micr. Journ.," Aug., 1889.

# Grevillea,

A QUARTERLY RECORD OF CRYPTOGAMIC BOTANY  
AND ITS LITERATURE.

## NEW AUSTRALIAN FUNGI.

By M. C. COOKE.

(Continued from p. 8.)

**\*Agaricus (Pholiota) recedens, Cke. & Mass.**

Pileo carnosulo, convexo-expanso, subumbonato, glabro, sicco, aureo-fulvo, disco obscuriori (circa 1 unc. diam.), margine tenui, demum striatulo; stipite elongato, cylindrico, æquali (3-4 unc. long, 2 lin. crass.), pileo concolori, vel deorsum obscuriori, annulo amplo, patulo, distante medio; lamellis adnatis, subdistantibus, ventricosis, tenuibus, cinnamomeis. Sporis acuminato-ellipticis, læte fuscis,  $9 \times 5 \mu$ .

On the ground. Mordiallac, Victoria. (C. French.)

Allied closely to *Ag. togularis*, Bull.

**Craterellus multiplex, Cke. & Mass.**

Stem slender, erect, rugose (2in. long, 2 lin. thick). Pilei reniform or obovate, attached at the base to the stem, in a series of five or six, superimposed ( $\frac{1}{2}$ - $\frac{3}{4}$ in. broad), sub-membranaceous, depressed behind, smooth, ochraceous, margin a little incurved, thin, hymenium flesh colour, longitudinally rugose. Spores  $3\frac{1}{2} \mu$  diam. globose, very numerous, hyaline.

On the ground. Derwent River, Tasmania.

**Seismosarca, Cooke (Genus nova).**

Tremelloid, very soft and quaking, subglobose, lobate, or gyrose, sessile, covered everywhere by the hymenium. Basidia clavate. Spores continuous, coloured.

**Seismosarca hydrophora, Cooke.**

Inflated, gelatinous, lobate (2-3in. broad), dingy pale, fuliginous, very soft and watery, covered with scattered coloured hairs, which are usually furcate at the base ( $50-60 \times 8 \mu$ ), pointed at the apex. Basidia clavate, spores elliptic, continuous, bright brown,  $7 \times 4 \mu$ .

On wood. Clarence River, Australia. (Willcox.)

Texture and appearance of *Tremella*, but with different basidia, and coloured spores.

**Scleroderma aurea, Massee.**

Peridium globose, thick, smooth, or minutely verruculose, yellowish-olive, with the flesh bright yellow, tapering below into a very short, stem-like base, running into a dense mass of branched, cord-like, bright yellow mycelium. Capillitium yellowish olive, dense, elastic, spores umber in the mass, with an olive tinge, globose, smooth,  $5\ \mu$  diam.

On the ground. New Guinea.

**Scleroderma australe, Massee.**

Subglobose, sessile, subpiculate below. Peridium thick, almost even, externally minutely furfuraceous or felty, dirty-ochre, with a rooting base, which is short, abrupt, and fibrous. Internally with very indistinct areolæ, mass of spores (without definite capillitium), purple-brown; spores globose, sparsely and minutely verruculose,  $6-7\ \mu$ .

On soil. Endeavour River, Queensland. (*Persiety.*)

**\*Spinellus gigasporus, Cke. & Mass.**

Hyphis sporangiferis simplicibus, decumbentibus, olivaceo nitentibus, continuis ( $40-45\ \mu$  crass.). Sporangii subglobosis, polysporis ( $220-250\ \mu$  diam.), columella cylindrica, apice rotundata ( $140-150 \times 90-100\ \mu$ ). Sporis elongato-ellipsoideis, olivaceis ( $50-60 \times 13-15\ \mu$ ). Hyphis zygosporiferis flexuosis tenuioribus, obscurioribus, septatis, zygosporio compresso-globozo, ruguloso, atrofusco ( $70-80 \times 55-60\ \mu$ ). Rami zygosporia arcuati, lævi, nec spinulosi.

On decaying Agarics. Mordiallac, Victoria. (*C. French.*)

## NEW BRITISH FUNGI.

(Continued from p. 20.)

**Agaricus (Collybia) floccipes, Fr. Hym. Eur. 116.**

Pileus rather fleshy, campanulate, then convex, umbonate, even, silky, becoming pale; stem fistulose, straight, rooting, pallid, rough with floccose punctiform black squamules; gills adnixed, ventricose, rather distant, thick, white.—*Cooke Illus. Suppl.*

In a stump. Leigh Woods. (*C. Bucknall.*)

With the habit of *Mycena*.

**Faxillus (Lepista) Alexandri, Gillet Hym. Fr.**

Pileus fleshy, compact, plane, then depressed, dry, unpolished, fawn colour, margin closely involute, becoming flattened and faintly striate; stem stout; gills rather decurrent, crowded, colour of box wood.—*Fr. Hym. Eur. 402. Cooke Illus. Suppl.*

On the ground. Theydon Bois.

Pileus 2-3 inches broad. Stem short and thick. Flesh white, turning yellow. Spores whitish. Resembling in appearance small discoloured *L. villereus*, with dark gills. Spores  $7-8 \times 4\ \mu$ .

**Marasmius (Mycena) actinophorus**, B. & Br., *Ceylon Fungi* No. 385.

Pileus 2 to 3 lines across, plane, smooth, even, pale ochre, disc purple, with radiating lines of the same colour, very thin. Stem 1 inch long, straight, equal, thread-like, polished, brownish red, curved at the base. Gills few, rather broad, subdecurrent, with shorter ones between, distant, not anastomosing nor connected by veins, pallid. Spores sphaerical.—*Cooke Illus. t.* 1136 B.

On naked soil. Kew Gardens.

**Rhinotrichum aureum**, Cke. & Mass.

Broadly effused, overrunning the entire matrix, bright golden orange. Sterile threads, creeping, branched, thin, septate. Fertile threads, erect, simple or dichotomous, septate (12-15  $\mu$  diam.), ultimate joint papillate with obtuse warts. Conidia ovate-elliptical, clustered at the apices in subglobose heads. 18-20  $\times$  10-12  $\mu$ .

On decayed *Paxillus*. Epping Forest.

**Trichia purpurascens**, Nyl.

Sporangia stipitate, ovate or spherico-ovate, solitary or gregarious, purplish-red, opaque; stem longitudinally wrinkled, erect or cernuous, rather firm and thickish, expanding at the base into a small hypothallus, coloured like the sporangium, which it equals or exceeds in length; mass of elaters and spores bright ochraceous; elaters rather short, fusiform, attenuated at each end into a very long, tapering, smooth, straight, or flexuous apiculus, spirals rather prominent and distant, about 5  $\mu$  thick at the centre, simple or branched; spores globose, verruculose, yellow, 9-11  $\mu$  diameter.—*Nyl., in Sällsk. pro Faun. et Flor. Fenn., notis. Ny., Ser. H, I., (p. 126; Mass. Rev. Trich., p. 332; Sacc. Syll. 1508.)*

On moss. Carlisle. (*Dr. Carlyle.*)

Very nearly approaching some forms of *Trichia fragilis*, from which it differs more especially in the distant, prominent, sharp edged and not flattened spiral bands on the elaters. The inner surface of the sporangial wall is studded with purple organic lumps; these, however, are met with in some undoubted forms of *T. fragilis*.

**Hemiarcyria Bucknallii**, Mass.

Sporangia sessile on a broad or narrow base, seated on a very thin hypothallus, circular, reniform, or subangular from mutual pressure, wall very thin, gilvo-ochraceous, soon disappearing; mass of spores orange; capillitium well developed, threads combined to form a wide meshed network with many free ends, 4-5  $\mu$  thick, walls with annular ridges mostly crowded, but here and there scattered, and sometimes passing into a spiral, the ridges with numerous thin, straight spines 3-4  $\mu$  long, the free tips irregularly swollen and bristling with spines, as are also certain interstitial swollen portions; spores globose, pale yellow, minutely warted, 7-9  $\mu$  diameter.

On wood. Bristol. (*C. Bucknall.*)

Generally crowded, about 5 mm. diameter, but extending to 1.5 mm. when isolated and elongated. Most closely allied to *H. Wigandi*, Rost., but at once distinguished by the larger size of the sporangia, the markings on the elaters being in the form of rings and not spirals, and in being furnished with numerous spines.

## SYNOPSIS PYRENOMYCETUM.

(Continued from p. 17.)

GEN. 6. **ANTHOSTOMELLA.** Sporidia continua, fuliginea.

\* **EUANTHOSTOMELLA.** Sporidia muticis.

† In *Dicotyledoneis*.

4601. nigrotecta, B. & Rav. ...	1054	4604. chionostoma, D. R. & M. ...	1061
4602. intybi, D. R. & M.	1059	4605. Africana, K. & C.	1081, 6324
4603. baptisiæ, Cke. ...	1061		

†† In *Monocotyledoneis*.

4606. punctulata, Rob...	1028	4621. eliminata, B. & C.	1040
4607. minima, Sacc. ...	1029	4622. smilacis, Fab. ...	1041
4608. lugubris, Desm. ...	1030	4623. sepelibilis, B. & C.	1042
4609. nitidissima, D. R. & M. ...	1031	4624. smilacinina, Pk....	1043
4610. nigroannulata, B. & C. ...	1032	4625. sphæroidea, Speg.	1044
4611. yuccæ, Thum. ...	1033	4626. paraguayensis, Speg. ...	6319
4612. phæosticta, Berk.	1034	4627. tomicum, Lev. ...	1045
4613. palmicola, Awd.	6318	4628. tumulosa, Rob. ...	1046
4614. contaminans, D. R. & M. ...	1035	4629. consanguinea, Ces.	1047
4615. pisana, Pass. ...	1036	4630. Trabutianna, S. & R. ...	1048
4616. Mccleriana, Winter	7435	4631. parmula, Lev. ...	1049
4617. platensis, Speg. ...	1037	4632. clivulosa, Mont. ...	1050
4618. Puiggarii, Speg....	1038	4633. rusci, Fab. ...	5925
4619. tenacis, Cooke ...	1039	4634. leucobasis, E. & M.	5926
4620. phormicola, Cooke	6323	4635. sabalensioides, E. & M. ...	5932

\*\* **ENTOSORDARIA.** Sporidia appendiculata.

4636. confusa, Sacc. ...	1065	4640. scotina, D. R. & M.	1071
= appendiculosa, B. & C.		4641. unguiculata, Mont.	1072
4637. rostrispora, Ger....	1068	4642. italica, S. & S. ...	1073
4638. achira, Speg. ...	1069	4643. bambusæ, Lev. ...	1074
4639. mirabilis, Speg. ...	1070	4644. tomicoides, Sacc.	1076

\* \* DESCISCENTES. *Ostiola nulla maculata.*

- |  |                                       |
|--|---------------------------------------|
| 4645. sulcigena, <i>Mont.</i> ... 1082 | 4650. caulicola, <i>Ces.</i> ... 1091 |
| 4646. stegophora, <i>M.</i> ... 1083   | 4651. duplex, <i>Cr.</i> ... 1092     |
| 4647. oblectans, <i>Ces.</i> ... 1084  | 4652. visci, <i>Kalch.</i> ... 1094   |
| 4648. acanthina, <i>M.</i> ... 1089    | 4653. Steinheilii, <i>M.</i> ... 1095 |
| 4649. pandani, <i>Rab.</i> ... 1090    |                                       |

GEN. 7. **DIDYMOSPHERELLA.** Sporidia didyma, fuliginea.\* EU DIDYMA. *Epidermide non nigrificata.*

- |   |   |
|---|---|
| 4654. conoidea, <i>Nsl.</i> ... 2644          | 4671. trachodes, <i>Mont.</i> ... 2672              |
| 4655. Schroteri, <i>Nsl.</i> ... 2645         | 4672. longipes, <i>Trab.</i> ... 7468               |
| 4656. Winteri, <i>Nsl.</i> ... 2646           | 4673. yuccogena, <i>Cke.</i> ... 2673               |
| 4657. parnassiae, <i>Peck.</i> ... 2647       | 4674. lusitanica, <i>Nsl.</i> ... 6580              |
| 4658. zerbina, <i>Not.</i> ... 2648           | 4675. palmacea, <i>C. &amp; H.</i> ... 1085         |
| 4659. diplodioides, <i>Cr.</i> ... 2649       | 4676. arundinicola, <i>Bizz.</i> ... 6581           |
| 4660. pardalnia, <i>E. &amp; E.</i> ... 7467  | 4677. rhytidosperma,<br><i>Speg.</i> ... ... 6582   |
| 4661. maritima, <i>Cr.</i> ... 2650           | 4678. spatharum, <i>Wint.</i> ... 6583              |
| 4662. Vizeana, <i>Cke.</i> ... 2651           | 4679. typhæ, <i>Peck.</i> ... 6584                  |
| 4663. adelphica, <i>Cke.</i> ... 2652         | 4680. palustris, <i>B. &amp; Br.</i> ... 2674       |
| 4664. sellæ, <i>Bagn.</i> ... 2656            | 4681. peltigeræ, <i>Fckl.</i> ... 2675              |
| 4665. circinans, <i>Hark.</i> ... 6585        | 4682. infestans, <i>Speg.</i> ... 2676              |
| 4666. empetri, <i>Fr.</i> ... 2657            | 4683. bryonthæ, <i>Arn.</i> ... 6588                |
| 4667. anaxæa, <i>Sacc.</i> ... 2669           | 4684. microstictica,<br><i>Leight.</i> ... ... 6589 |
| 4668. polysticta, <i>B. &amp; C.</i> ... 2670 | 4685. sporastatiæ, <i>Anzi.</i> ... 6591            |
| 4669. serrulata, <i>E. &amp; M.</i> ... 6575  |   |
| 4670. smaragdina, <i>Ces.</i> ... 2671        |   |

\* \* MICROTHELIA. *Epidermide nigrificata.*

- |   |   |
|---|---|
| 4686. brunneola, <i>Nsl.</i> ... 2678         | 4690. appendiculosa,<br><i>Speg.</i> ... ... 2686 |
| 4687. meretrix, <i>M.</i> ... 2679            | 4691. nubecula, <i>Pass.</i> ... 2696             |
| 4688. galiorum, <i>Fckl.</i> ... 2683         | 4692. donacina, <i>Nsl.</i> ... 2697              |
| 4689. tenebrosa, <i>B. &amp; Br.</i> ... 2685 | 4693. minuta, <i>Nsl.</i> ... 2698                |
|   | 4694. Sauteri, <i>Korb.</i> ... 6590              |

GEN. 8. **HEPTAMERIA.** Sporidia pleurisepitata.I. LEPTOSPHERIA. *Sporidia articulis homogeneis.*A. In *Dicotyledoneis.*† *Sporidia 2-3 septata.*\* *Perithecia glabra.*

- |  |   |
|--|---|
| 4695. doliolum, <i>Pers.</i> ... 2895        | 4700. dumetorum, <i>Nsl.</i> ... 2899       |
| 4696. conoidea, <i>Not.</i> ... 2896         | 4701. demissa, <i>Nsl.</i> ... 6648         |
| 4697. suffulta, <i>Nees.</i> ... 2897        | 4702. obesula, <i>Sacc.</i> ... 2900        |
| 4698. acanthi, <i>Pat.</i> ... 7477          | 4703. bocconia, <i>C. &amp; F.</i> ... 2901 |
| 4699. subconica, <i>C. &amp; P.</i> ... 2898 | 4704. argentina, <i>Speg.</i> ... 2902      |



4705. leptospora, <i>Not.</i>	2903	4732. inculta, <i>Sacc.</i>	... 2925
4706. clivensis, <i>B. &amp; Br.</i>	2904	4733. aparines, <i>Fckl.</i>	... 2926
4707. libanotis, <i>Fckl.</i>	2905	4734. galicola, <i>Sacc.</i>	... 2927
4708. Longchampsii,		4735. galiorum, <i>Sacc.</i>	... 2928
<i>West.</i> ...	6650	4736. muralis, <i>Sacc.</i>	... 2929
4709. consessa, <i>C. &amp; E.</i>	2906	4737. promontorii, <i>Sacc.</i>	2930
4710. ophioboloides, <i>S.</i>	6651	4738. Sarraziniana, <i>Sacc.</i>	6656
4711. rudbeckiæ, <i>K.</i>	... 2907	4739. pyrenopezizoides,	
4712. rothomagensis,		<i>S. &amp; S.</i>	... 2931
<i>Sacc.</i> ...	2908	4740. parietariæ, <i>Sacc.</i>	... 2932
4713. sibirica, <i>Thum.</i>	... 2909	4741. salicaria, <i>Pass.</i>	... 2933
4714. viridella, <i>Peck.</i>	... 2910	4742. circinans, <i>Fckl.</i>	... 3183
4715. dioica, <i>Mong.</i>	... 2911	4743. agminalis, <i>S. &amp; M.</i>	2934
4716. distributa, <i>C. &amp; E.</i>	2912	4744. Weberi, <i>Oud.</i>	... 6657
4717. Harknessiana, <i>C.</i>		4745. aconiti, <i>Sacc.</i>	... 2935
<i>&amp; E.</i> ...	6652	4746. obiones, <i>Cr.</i>	... 2936
4718. medicaginis, <i>Fckl.</i>	2915	4747. capparidis, <i>Pass.</i>	2937
4719. pratensis, <i>S. &amp; B.</i>	6653	4748. euphorbiæ, <i>Nsl.</i>	... 2938
4720. subcæspitosa, <i>C. &amp;</i>		4749. corallorhizæ, <i>Peck.</i>	6658
<i>H.</i> ...	6654	4750. cruenta, <i>Sacc.</i>	... 2939
4721. Niessleana, <i>Rab.</i>	... 2917	4751. rubicunda, <i>Rehm.</i>	2940
4722. sodomæa, <i>Not.</i>	... 2918	4752. diaporthoides,	
4723. oreophiloides, <i>S. &amp;</i>		<i>Wint.</i> ...	6659
<i>P.</i> ...	2919	4753. glæospora, <i>B. &amp; C.</i>	2941
4724. salebrosa, <i>Pr.</i>	... 2920	4754. molybdina, <i>Mont.</i>	2942
4725. conferta, <i>Nsl.</i>	... 2921	4755. Nitschkei, <i>Rehm.</i>	2943
4726. nigrella, <i>Rab.</i>	... 2922	4756. purpurea, <i>Rehm.</i>	6126
4727. solani, <i>Romell</i>		4757. cucurbitarioides,	
4728. Delawayi, <i>Pat.</i>	... 6672	<i>Fab.</i> ...	6127
4729. olericola, <i>B. &amp; C.</i>	2923	4758. lecanora, <i>Fab.</i>	... 6128
4730. anthelmintica, <i>Cke.</i>	2924	4759. eryngii, <i>Fab.</i>	... 6129
4731. eutypoides, <i>Peck.</i>	6655	4760. platanicola, <i>Howe</i>	6130

\*\* *Perithecia hirtella.*

4761. echinops, <i>Hazz.</i>	... 2964	4763. eriophora, <i>Cke.</i>	... 3181
4762. comatella, <i>C. &amp; E.</i>	2965	4764. echinella, <i>Cke.</i>	... 3182

†† *Sporidia 5 septata.*

\* *Perithecia glabra.*

4765. planiuscula, <i>Fr.</i>	... 2966	4772. Mertensia, <i>Ellis</i>	2972
4766. helminthospora,		4773. bardanæ, <i>Wallr.</i>	... 2973
<i>Ces.</i> ...	2967	4774. guaphalii, <i>West</i>	... 2974
4767. artemisiæ, <i>Fckl.</i>	... 2968	4775. cæspitosa, <i>Nsl.</i>	... 2975
4768. Sydowiana, <i>Rehm.</i>		4776. medicaginum, <i>Sacc.</i>	2976
4769. Owaniæ, <i>K. &amp; Cke.</i>	2969	4777. maculans, <i>Desm.</i>	... 2977
4770. mirabilis, <i>Nsl.</i>	... 2970	4778. virginica, <i>C. &amp; E.</i>	2978
4771. ogilviensis, <i>B. &amp; Br.</i>	2971	4779. hæmatites, <i>Desm.</i>	2981

4780. <i>striata</i> , <i>Winter</i> ...	2982	4788. <i>scotophila</i> , <i>Sacc.</i> ...	2989
4781. <i>hyperici</i> , <i>Winter</i> ...	2983	4789. <i>nigricans</i> , <i>K.</i> ...	2990
2782. <i>eranthemi</i> , <i>Pat.</i> ...	7479	4790. <i>tenera</i> , <i>Ellis.</i> ...	2991
4783. <i>cylindrospora</i> , <i>Awd.</i>	2984	4791. <i>Mulleri</i> , <i>D. By.</i> ...	2992
4784. <i>phyteumatis</i> , <i>Fckl.</i>	2985	4792. <i>Winter</i> , <i>Nsl.</i> ...	6131
4785. <i>psilospora</i> , <i>Awd.</i> ...	2986	4793. <i>cynops</i> , <i>Fab.</i> ...	6132
4786. <i>sarmenticia</i> , <i>S.</i> ...	2987	4794. <i>fœniculacea</i> , <i>Fab.</i>	6133
4787. <i>sapeyensis</i> , <i>Sacc.</i>	2988		

\*\* *Perithecia setulosa.*

4795. <i>appendiculata</i> , <i>Pr.</i>	2993	4797. <i>spectabilis</i> , <i>Nsl.</i> ...	2995
4796. <i>modesta</i> , <i>Desm.</i> ...	2994	= <i>penicillus</i> , <i>S.</i> ...	

††† *Sporidia 6-16 septata.*

4798. <i>agnita</i> , <i>Desm.</i> ...	2996	4809. <i>Castagnei</i> , <i>D. R. &amp;</i>	
4799. <i>acuta</i> , <i>Mong.</i> ...	2997	<i>M.</i> ...	3005
= <i>conformis</i> , <i>Fr.</i>		4810. <i>cadubriæ</i> , <i>Speg.</i> ...	3006
4800. <i>multiseptata</i> ,		4811. <i>scapophila</i> , <i>Peck.</i>	3007
<i>Winter</i> ...	6134	4812. <i>clavigera</i> , <i>C. &amp; E.</i>	3008
4801. <i>derasa</i> , <i>B. &amp; Br.</i> ...	2998	4813. <i>Kalmusii</i> , <i>Nsl.</i> ...	3009
4802. <i>pellita</i> , <i>Rab.</i> ...	2999	4814. <i>cercispora</i> , <i>K. &amp; C.</i>	3010
4803. <i>plumbaginis</i> , <i>Pat.</i>	7480	4815. <i>dolioloides</i> , <i>Awd.</i>	3011
4804. <i>torulispora</i> , <i>Cke.</i>	3000	4816. <i>drabæ</i> , <i>Nyl.</i> ...	3012
4805. <i>megalospora</i> ,		4817. <i>millefolii</i> , <i>Fckl.</i> ...	3013
<i>Awd.</i> ...	3001	4818. <i>massarioides</i> , <i>S &amp; S.</i>	3014
4806. <i>ptarmicæ</i> , <i>K.</i> ...	3002	4819. <i>napi</i> , <i>Fckl.</i> ...	3015
4807. <i>Saccardiana</i> , <i>Fab.</i>	3003	4820. <i>nectrioides</i> , <i>Sp.</i> ...	3016
4808. <i>anthostomoides</i> ,		4821. <i>petiolicola</i> , <i>Sacc.</i> ...	3017
<i>Rehm.</i> ...	3004	4822. <i>Thielensii</i> , <i>West.</i>	3018
		4823. <i>aucta</i> , <i>Nsl.</i> ...	3019

B. FRUCTICOLÆ.

4824. <i>carpogena</i> , <i>Sacc.</i> ...	3057	4829. <i>carpopbila</i> , <i>Sacc.</i> ...	3062
4825. <i>lunariæ</i> , <i>B. &amp; Br.</i> ...	3058	4830. <i>bractearum</i> , <i>Sacc.</i>	3063
4826. <i>endiusæ</i> , <i>Fckl.</i> ...	3059	4831. <i>autophila</i> , <i>S. &amp; S.</i>	3064
4827. <i>scrophulariæ</i> , <i>Desm.</i>	3060	4832. <i>fimiseda</i> , <i>Wint.</i> ...	3065
4828. <i>impressa</i> , <i>Preuss.</i>	3061		

C. In *Monocotyledoneis.*

† *Sporidia 2-4 septata.*

4833. <i>Michotii</i> , <i>West.</i> ...	3066	4838. <i>marram</i> , <i>Oke.</i> ...	3070
= <i>biseptata</i> , <i>Awd.</i>		4839. <i>orthogramma</i> , <i>B. &amp;</i>	
= <i>trimera</i> , <i>Sacc.</i>		<i>O.</i> ...	3071
4834. <i>punctoidea</i> , <i>Karst.</i>	6674	4840. <i>sorgophila</i> , <i>Peck.</i>	3072
4835. <i>vagans</i> , <i>K.</i> ...	3067	4841. <i>Leersiana</i> , <i>Sacc.</i> ...	3073
4836. <i>personata</i> , <i>Nsl.</i> ...	3068	4842. <i>ischaemi</i> , <i>Pass.</i> ...	3074
4837. <i>microscopica</i> , <i>K.</i> ...	3069	4843. <i>eustoma</i> , <i>Fr.</i> ...	3075

4844. eustomoides, <i>Sacc.</i>	3076	4865. juncina, <i>Awd.</i>	... 3094
4845. eustomella, <i>Sacc.</i>	3077	4866. hysteroioides, <i>E. &amp; E.</i>	... 6676
4846. orastophila, <i>Sacc.</i>	3078	4867. lamprocarpi, <i>Pass.</i>	3095
4847. salvinii, <i>Catt.</i>	... 3079	4868. juncicola, <i>Rehm.</i>	... 3096
4848. tritici, <i>Gar.</i>	... 3080	4869. junciseda, <i>K.</i>	... 3097
4849. arundinacea, <i>Sow.</i>	3081	4870. hydrophila, <i>Sacc.</i>	3098
4850. donacina, <i>S.</i>	... 3082	4871. heterospora, <i>Not.</i>	3099
4851. setulosa, <i>S. &amp; R.</i>	... 3083	4872. infernalis, <i>Nsl.</i>	... 6677
4852. marina, <i>E. &amp; E.</i>	... 6675	4873. translucens, <i>Wint.</i>	6678
4853. micropogon, <i>Sacc.</i>	3084	4874. dasylirii, <i>Rab.</i>	... 3100
4854. apogon, <i>Sacc.</i>	... 3085	4875. ophiopogonis, <i>Sacc.</i>	3101
4855. typharum, <i>Desm.</i>	3086	4876. oreophila, <i>Sacc.</i>	... 3103
4856. typhæ, <i>Karst.</i>	... 3087	4877. parvula, <i>Nsl.</i>	... 3104
4857. elæospora, <i>Sacc.</i>	... 3088	4878. phormicola, <i>C. &amp; H.</i>	6679
4858. cyperina, <i>Pass.</i>	... 3089	4879. scabiens, <i>Ces.</i>	... 3105
4859. epicarecta, <i>Cke.</i>	... 3090	4880. smilacis, <i>Cast.</i>	... 3106
4860. hemicrypta, <i>Oud.</i>	7482	4881. triglochinnicola, <i>Curr.</i>	... 3107
4861. gigaspora, <i>Nsl.</i>	... 3091	4882. ammophilæ, <i>Lasch.</i>	4521
4862. caricinella, <i>K.</i>	... 3092		
4863. sabalicola, <i>Ellis</i>	... 6135		
4864. luzulæ, <i>Winter</i>	... 3093		

†† *Sporidia 5 septata.*

4883. sticta, <i>E. &amp; E.</i>	... 6680	4896. riparia, <i>Sacc.</i>	... 3120
4884. nigrans, <i>Desm.</i>	... 3108	4897. clara, <i>Cke.</i>	... 3121
4885. licatensis, <i>Sacc.</i>	... 3109	4898. caricis, <i>Schr.</i>	... 3122
4886. culmicola, <i>Fr.</i>	... 3110	4899. vectis, <i>B. &amp; Br.</i>	... 3123
4887. Fuckelii, <i>Nsl.</i>	... 3111	4900. rusci, <i>Wallr.</i>	... 3124
4888. Rouselliana, <i>Desm.</i>	3112	4901. obtusispora, <i>Speg.</i>	3125
4889. insignis, <i>K.</i>	... 3113	4902. spartinae, <i>E. &amp; E.</i>	6681
4890. luctuosa, <i>Nsl.</i>	... 3114	4903. lineolaris, <i>Nsl.</i>	... 6682
4891. nardi, <i>Fr.</i>	... 3115	4904. typhiseda, <i>S. &amp; B.</i>	6683
4892. albopunctata, <i>West</i>	3116	4905. pachycarpa, <i>S. &amp; M.</i>	6684
4893. epicalamia, <i>Riess</i>	3117	4906. rhodophea, <i>Bizz.</i>	6685
4894. maritima, <i>C. &amp; Pl.</i>	3118	4907. hierochloæ, <i>Oud.</i>	... 6686
4895. norfolcia, <i>Cke.</i>	... 3119	4908. præclara, <i>Karst</i>	... 6687

††† *Sporidia 6-16 septata.*

4909. culmifraga, <i>Fr.</i>	... 3126	4919. asparagina, <i>Karst</i>	6689
4910. amphibola, <i>Sacc.</i>	3127	4920. herpotrichioides, <i>Not.</i>	... 3135
4911. disseminata, <i>Not.</i>	3128	4921. pontiformis, <i>Fckl.</i>	3136
4912. sylvatica, <i>Pass.</i>	... 3129	4922. consobrina, <i>K.</i>	... 3137
4913. secalis, <i>Hab.</i>	... 3130	4923. littoralis, <i>Sacc.</i>	... 3138
4914. graminis, <i>Fckl.</i>	... 3131	4924. Sowerbyi, <i>Fckl.</i>	... 3139
4915. rubelloides, <i>Plow.</i>	3132	4925. typhicola, <i>K.</i>	... 3140
4916. sparsa, <i>Fckl.</i>	... 3133	4926. monilispora, <i>Fckl.</i>	3141
4917. intersparsa, <i>Cke.</i>	3134	4927. ammophilæ, <i>Rehm.</i>	6671
4918. clavicarpa, <i>E. &amp; F.</i>	6688		

D. In *Acotyledoneis*.

- |   |  |
|---|--|
| 4928. <i>lycopodicola</i> , <i>Peck</i> . 6690      | 4941. <i>bryophila</i> , <i>Sacc.</i> ... 3154         |
| 4929. <i>Crepini</i> , <i>West.</i> ... 3142        | 4942. <i>Heufleri</i> , <i>Nsl.</i> ... 3155           |
| 4930. <i>Marcyrensis</i> , <i>Ph.</i> 3143          | 4943. <i>polaris</i> , <i>Sacc.</i> ... 3156           |
| 4931. <i>campi-silii</i> , <i>Sp.</i> ... 3144      | 4944. <i>Rivana</i> , <i>Not.</i> ... 3157             |
| 4932. <i>helvetica</i> , <i>S. &amp; S.</i> 3145    | 4945. <i>parmeliarum</i> , <i>P. &amp; P.</i> ... 3158 |
| 4933. <i>lycopodina</i> , <i>Mont.</i> 3146         | 4946. <i>apocalypta</i> , <i>Rehm.</i> 6691            |
| 4934. <i>equiseti</i> , <i>K.</i> ... 3147          | 4947. <i>ramalinæ</i> , <i>Desm.</i> ... 3159          |
| 4935. <i>caninæ</i> , <i>P.</i> ... 3148            | 4948. <i>sphyriddiana</i> , <i>Lahm.</i> 6692          |
| 4936. <i>arvensis</i> , <i>Speg.</i> ... 3149       | 4949. <i>lemanæ</i> , <i>Cohn.</i> ... 3160            |
| 4937. <i>hiemalis</i> , <i>S. &amp; S.</i> ... 3150 | = <i>fluviatilis</i> , <i>P. &amp; P.</i> 3161         |
| 4938. <i>asplenii</i> , <i>Rab.</i> ... 3151        | 4950. <i>stereicola</i> , <i>Ellis</i> ... 6136        |
| 4939. <i>caffra</i> , <i>Thum.</i> ... 3152         | 4951. <i>fungicola</i> , <i>Wint.</i> ... 7483         |
| 4940. <i>aquilina</i> , <i>Pass.</i> ... 3153       |  |

E. *Species colore dubie.*† In *Dicotyledoneis*.

- |  |   |
|--|---|
| 4952. <i>stictostoma</i> , <i>B. &amp; C.</i> 3162 | 4961. <i>stictoides</i> , <i>B. &amp; C.</i> 3171 |
| 4953. <i>lophanthi</i> , <i>B. &amp; C.</i> 3163   | 4962. <i>cibostii</i> , <i>Ces. &amp; Not.</i>    |
| 4954. <i>digitalis</i> , <i>Cr.</i> ... 3164       | <i>Myc. Un.</i> 165                               |
| 4955. <i>teucris</i> , <i>Cr.</i> ... 3165         | 4963. <i>Morthieri</i> , <i>Roum.</i>             |
| 4956. <i>nesodes</i> , <i>B. &amp; Br.</i> 3166    | <i>F. Gall.</i> 1843                              |
| 4957. <i>janus</i> , <i>B. &amp; C.</i> ... 3167   | 4964. <i>phlomidis</i> , <i>Roum.</i>             |
| 4958. <i>indepressa</i> , <i>D. R.</i>             | <i>F. Gall.</i> 1938                              |
| <i>&amp; M.</i> ... 3168                           | 4965. <i>plerothecæ</i> , <i>Roum.</i>            |
| 4959. <i>taxicola</i> , <i>Peck.</i> ... 3169      | <i>F. Gall.</i> 1837                              |
| 4960. <i>olivæspora</i> , <i>B. &amp; C.</i> 3170  |   |

†† In *Monocotyledoneis*.

- |  |  |
|--|--|
| 4966. <i>lucorum</i> , <i>Cr.</i> ... 3172         | 4971. <i>phragmiticola</i> , <i>Cr.</i> 3177       |
| 4967. <i>Weddellii</i> , <i>M.</i> ... 3173        | 4972. <i>ceratispora</i> , <i>B. &amp; C.</i> 3178 |
| 4968. <i>incarcerata</i> , <i>B. &amp; C.</i> 3174 | 4973. <i>Beaumontii</i> , <i>B. &amp; C.</i> 3179  |
| 4969. <i>zizaniæcola</i> , <i>B. &amp; C.</i> 3175 | 4974. <i>duplex</i> , <i>Sow.</i> ... 3180         |
| 4970. <i>latebrosa</i> , <i>Ellis</i> ... 3176     |  |

II. EUHEPTAMERIA. *Sporidia medio colorato.*

- |   |  |
|---|--|
| 4975. <i>uncinata</i> , <i>Nsl.</i> ... 6693    | 4979. <i>mesædema</i> , <i>B. &amp; C.</i> 3187        |
| 4976. <i>obesa</i> , <i>D. R. &amp; M.</i> 3184 | 4980. <i>helichrysi</i> , <i>Fab.</i> ... 3188         |
| 4977. <i>elegans</i> , <i>Rehm.</i> ... 3185    | 4981. <i>bicuspidata</i> , <i>C. &amp; H.</i> ... 6649 |
| 4978. <i>Thumeniana</i> , <i>Nsl.</i> 3186      |  |

III. CLYPEOSPHÆRIA. *Perithecia clypeata.**Sporidia subtriseptata.*

- |   |  |
|---|--|
| 4982. <i>contempta</i> , <i>D. R. &amp; M.</i> ... 3196 | 4984. <i>aliquanta</i> , <i>C. &amp; E.</i> 3198 |
| 4983. <i>hyperici</i> , <i>Plow.</i> ... 3197           | 4985. <i>euphorbiacea</i> , <i>Pass.</i> 3199    |
|   | 4986. <i>Morreni</i> , <i>West</i> ... 6694      |

IV. REBENTISCHIA. *Sporidia 3-5 septata candata.*

- |   |
|---|
| 4987. <i>typhæ</i> , <i>Fab.</i> ... 2893 |
|---|

## SOME EXOTIC FUNGI.

By M. C. COOKE.

***Seynesia melanosticta*, Cke. & Mass.**

Epiphylla. Peritheciis sparsis, solitariis, dimidiatis, basin concretis (vix  $\frac{1}{2}$  mm. diam.), atris, nitidis, ostiolo pertuso. Ascis cylindraceis, octosporis. Sporidiis uniserialibus, ellipticis, uniseptatis, vix constrictis, pallide fuscis,  $10 \times 3-5 \mu$ .

On living leaves of *Alsodeia*, sp. nov. Mount Ophir, Malacca (R. W. Hullett).

***Conractia pulverulenta*, Cke. & Mass.**

Ovaria implens, tumefaciens, massam atram, duram, demum pulveraceam, efficiens; glomerulis subrotundis, vel ovoideis, ( $40-50 \mu$ ), sporis circa 40, coacervatis, globosis, subtiliter verruculosus,  $8-10 \mu$ , fuscis.

On *Erianthus*. Nungklo, Khasia (C. Baron Clarke, 44069).

***Cintractia patagonica*, Cke. & Mass.**

Intra ovaria matura orta. Sporis in globulas adglutinatiss, demum secedentibus, globosis, verruculosus, læte fuscis,  $7-9$  plerumque  $10 \mu$  diam.

On *Bromus unioloides*. Bahia Blanca, N. Patagonia (G. Claraz).

***Dendrodochium verticillatum*, Cke. & Mass.**

Sporodochiis pulvinatis, molliusculis, gelatinosis, carneis, erumpentibus ( $\frac{1}{2}-1$  m. diam.), sporophoris repetite verticillato-ramosis, conidiis acrogenis, ovatis, hyalinis,  $5 \times 2 \mu$ .

On rotting *Liquidambar*. S. Carolina (Ravenal, No. 2796).

***Hydnium (Resupinatum) cretaceum*, Cke.**

Resupinatum, longe effusum, album. Subiculo crassiusculo, tomentoso, niveo. Aculeis robustis, subulatis, dependentibus, obtusis, ad basim connatis ( $1-2$  mm. long), plerumque compressis, farinaceo-cretaceis. Sporis  $4 \times 3 \mu$ .

On bark. Brazil (Glaziov, 18118).

Spreading 3 or 4 inches, with a chalky appearance, as if dusted with lime.

***Cintractia cryptica*, Cke. & Mass.**

Intra ovaria cryptica, minuta, inconspicua. Sporis aggregatis, ovato-globosis  $30-40 \mu$ ; sporis singulis, compresso-globosis, ad apicem minute verruculosus, brunneis,  $12-14 \mu$  diam.

On *Pollinia argentea*. Munepore (C. B. Clarke).

***Macrophoma Ehretiae*, Cke. & Mass.**

Peritheciis globoso-depressis, sparsis, tectis, atris; ostiolo pertusis. Sporulis ellipticis, hyalinis, utrinque rotundatis ( $20-22 \times 10 \mu$ ), basidiis bacillaribus, simplicibus vel furcatis, suffultis.

On branches of *Ehretia formosana*. N. Coast of Formosa.

**Gnomonia coriacea**, Cke. & Mass.

Peritheciis minutis, in maculos orbicularos congestis, foliorum parenchymati innatis, ostiolo elongato, sursum leniter attenuato. Ascis clavato-stipitatis, octosporis. Sporidiis uniseptatis, obtusis, hyalinis,  $10 \times 2.3 \mu$ .

On coriaceous leaves. Brazil (*Glaziou*, No. 18083).

**Micropeltis maculata**, Cke. & Mass.

Epiphylla, maculæformis. Peritheciis dimidiatis, orbiculari-convexulis, minutis, atris, nitidis, maculo fuligineo irregulari congregatis; ostiolo pertuso; ascis clavatis, octosporis; sporidiis fusiformibus, triseptatis, hyalinis,  $14-15 \times 3-4 \mu$ .

On dead coriaceous leaves. Brazil (*Glaziou*, 18076, 18093, 18080).

**Glypeolum zeylanicum**, C. & M. Grev. XVII.

This species also on the same and on other leaves from Brazil (*Glaziou*, 18070, 18084, 18078).

## FUNGUS FORAYS, 1889.

HACKNEY NATURAL HISTORY SOCIETY.—For the past ten years Epping Forest has been the scene of one or two forays in the autumn in search of fungi, and on Saturday, September 14th, the first of these for the present season took place under the auspices of the Hackney Natural History Society. Fungus-hunters, like farmers, are privileged to grumble at the weather, and this year the traditional grumble was indulged in; for, however fine and enjoyable the day might be, the ground was so dry and hard that the fungi had no chance. Somehow or other the past two or three years have been so exceptional as regards fungi, that fungus-hunters have been almost driven to despair. It has been the custom to make a list at these excursions of all the species identified during the day, and the totals are compared year by year. At the corresponding excursion last year the list included some 150 species, of which twenty were new to the forest, but on the present occasion the list only reached 108, and only four new species (or five, including a new mould of great interest) and two well-marked varieties were determined. The species found for the first time in the forest area were *Agaricus* (*Pholiota*) *præcox*, *Agaricus semi-vestitus*, *Cortinarius torvus*, and *Trichia scabra*. The new mould was *Rhizotrichum aureum*. The incident of the day, however, was the finding of *Hydnum diversidens*, upon some trunks in Monk's wood. This species was first found in Britain in 1884, when Mr. H. T. Wharton collected it from a trunk at Fairmead, and since then it has only once been met with until the present occasion. It is a rare species in all parts of Europe. As for the residue of the day's gathering, it was, on the whole, very commonplace; the number of individuals of all species

were very few, and those of the most ordinary kind. Even those discovered for the first time in the forest are common enough in other parts of the country, and some species usually common everywhere could not be seen at all. Only six specimens of the well-known "chantarelle" could be found, and these are usually collected by the basketful for cooking. Not a single *Boletus edulis* could be seen anywhere, while such things as *Agaricus velutinus*, *Agaricus infundibuliformis*, *Marasmius peronatus*, *Craterellus cornucopioides*, *Panus stypticus*, etc., could not be seen at all. The most prominent genus was *Russula*, but of all the seventy British species of *Tricholoma* there were but two, and of the fifty-three species of *Clitocybe* there were but two, and thus throughout the whole of the white-spored Agarics. This peculiarity was also remarked last year. Although of the single large genus *Agaricus* no fewer than 825 species are recorded for Great Britain, only thirty-four were recognized during that day in the forest. All together the edible fungi collected, at all fit for the table, would not have constituted more than one meal for a healthy man.

ESSEX FIELD CLUB.—Following within a fortnight of the Hackney Society, the Essex Field Club held their annual Foray in Epping Forest on Friday and Saturday, September 27th and 28th, in search of fungi. The excursion on Friday was taken in the woods north of Epping, and on Saturday around Theydon Bois. The company was not so large as in many of the preceding years, but the weather continued fine and agreeable. This was the tenth annual foray of the Essex Field Club for this purpose, but the soil was so hard and dry, notwithstanding recent rains, that all kinds of fungi were very scarce. The total number of species determined as having been seen during the two days was 138, being less than last year, which also was unfavourable. Although the total was small, it included one species, *Paxillus Alexandri*, new to the British Islands, and five species additional to the Essex list, viz., *Agaricus (Clitocybe) gallinaceus*, Fr.; *Russula Linmcei*, Fr.; *R. incarnata*, Q.; *Lycoperdon saccatum*, Fr.; and *Diachæa leucopoda*, Bull. In the evening, after a substantial tea, the usual meeting was held in a large room at Rigg's Retreat, and when the business matters were disposed of, the exhibition of fungi duly inspected and commented upon, the results of the excursion were detailed by Dr. M. C. Cooke, and comparisons instituted between the Essex list of fungi and those published by other counties, notably that of Herefordshire. The whole number of Agaricini found in Britain now reaches 1,335 species, of which 483 have been recorded for Herefordshire, and now about 410 for Essex. This was considered to be a very favourable result, seeing that continuous excursions of four days each have been held by the Woolhope Club for the

past twenty years, that a variety of localities have been explored, that a greater humidity and variety of soil characterize the Herefordshire districts, and a larger number of experienced workers have every year been associated with the excursions. Following upon these remarks, allusion was made to the life and labours of the late Rev. M. J. Berkeley, especially in connection with mycology, and a sympathetic audience listened for some time, with manifest interest, to reminiscences of the twenty-five years of intercourse between the speaker and the deceased. In conclusion, young and active members of the club, efficient in the use of the microscope, were urged to direct their attention to the microscopic fungi of the forest hitherto almost unknown. It was urged that there were two or three compact groups which might be taken up independently by different individuals, and explored with advantage. Such were the Myxogasters, the Discomycetes, and the Uredinous fungi, for all of which handy and recent text-books were available at a cheap rate; so that there was no longer excuse for leaving so many of the minute fungi of Essex without investigation. A complete and revised list of the larger fungi of Essex has already been prepared, and it is hoped will soon be published, and in the hands of the members.

WOOLHOPE FUNGUS FORAY.—Twenty-one years ago the Woolhope Club organized its first "Foray amongst the Funguses," as it was called, the primary object being to collect specimens of edible fungi for cooking and serving at the annual dinner. Subsequently and speedily the scope of the forays was widened, so as to include all the larger fungi, especially the Hymenomycetes, and has been continued with more or less success down to the present day. The total number of the species of British Agaricini may be taken as 1334, and of these 483 have been collected in Herefordshire, as recorded in the new *Herefordshire Flora*. This is, as yet, the largest number recorded for any British county, that of Essex having reached only 410. The Woolhope excursions for this year commenced on October 1st, and the place of assembly was Ludlow, in Shropshire, with the weather favourable, but the ground and the woods on this side of the kingdom were too dry to give any promise of success. The party was a smaller one than usual, scarcely exceeding ten on any of the days, whilst the lack of "game" represented also a lack of enthusiasm. Amongst those who took part in the explorations of the week were the Rev. Canon Du Port, Rev. J. E. Vize, and Messrs. Bucknall, Phillips, Plowright, and M. C. Cooke. Tuesday's excursion was made in the woods of Downton Castle, over ground which had not been visited by the Club for many years; but it soon became painfully manifest that the old success was not to be realized, and after patient and diligent search for about four hours, only about eighty species could be



enumerated, and of these only one or two individuals had been seen. Two old and dry specimens of *Strobilomyces* only were found, and this has generally been a species of certain occurrence somewhere during the Woolhope week. *Marasmius Hudsoni* was rather plentiful on Holly leaves, but scarcely anything else of interest. The Wednesday's excursion was made in the woods of Downton Hall, now for the first time visited by the Club. The excursion was in itself a pleasant one, but as barren of results as the previous day had been, only sixty-eight species being determined, of which the most interesting was *Agaricus (Inocybe) hæmactus*, a species first found at Credin-hill several years ago, and now seen again for the second time. Although the total number of species found was below that of the Tuesday, there was a larger number of interesting species, such as *Agaricus pelianthinus*, *calamistratus*, *acerosus*, *Friesii*, *Marasmius erythropus*, and *Russula Linnæi*. The Club day, Thursday, was occupied by a morning excursion to Dinmore, where about sixty species were determined between 10 a.m. and 2 p.m.; but this number had to be made up by recourse to microscopical species. The annual dinner afterwards, at the Green Dragon Hotel, was characterized by no especial feature, and *Hydnum repandum* was the fungus dish cooked "from the Club recipes," and served round to the assembled guests. In the evening, at a conversazione held at the house of T. Cam, Esq., one of the past presidents of the Club, a very large party of ladies and gentlemen were assembled, and papers read by E. C. Phillips, F.L.S., "On the Occurrence of the great Black Woodpecker in Great Britain;" by Rev. J. E. Vize, on "The Breathing System of Flowering Plants and their Allies;" and by W. Phillips, F.L.S., "On Popularizing the Knowledge of Edible and Poisonous Fungi," which latter was followed by a lively and interesting discussion, mainly on the proposal to recognize a few definite popular names for common edible fungi, and to disseminate information concerning them as widely as possible, especially amongst rural populations. The last day "of this eventful history" was devoted to Stoke Edith Park, and as park lands are perhaps the driest and most unproductive of any this year, it will not be surprising to learn that the record scarcely exceeded fifty, although more than half of these were pastoral species, which had not been met with on previous days. There is nothing more left to be recorded, save, after a careful comparison of all the lists, it may be that one or two species have been added to the county catalogue, but this is very doubtful. Reports have reached us of a plentiful harvest of fungi in Devonshire, and of a profusion in the North, but our own experiences in Essex, Shropshire, Herefordshire, Surrey, etc., during the past two or three weeks have satisfied us that, as a general rule, the present autumn has been unusually barren of fungi, no better, if not worse, than last year.

THE SUTTON COLDFIELD VESSEY CLUB organized a half-day's excursion to Trickle Coppice, on Saturday afternoon, October 5th, for the collection of fungi. The whole time spent upon the ground was something like two hours, and during the entire period the rain was falling sharply and persistently, so that, at its termination, all the unfortunate excursionists, numbering about five-and-twenty, presented the unenviable appearance of drowned rats. Such an exhibition is not a novelty to fungus hunters, but it is one which has not been experienced at any organized excursion for the past two or three years. However, there was one redeeming feature, that the number of species collected was larger, proportionately, than at any excursion of the present year. The ground was sufficiently wet before the downfall began, and at its close was much more than sufficiently soft. The conductors on this occasion were Messrs. J. E. Bagnall, Grove, and M. C. Cooke, who prepared a list of the species determined, and reported a total of upwards of sixty, which was a fair average for almost any ordinary season, of thirty species per hour, but a high average for a season when about ten species per hour has hardly been exceeded. The collection included many very common species, the edible portions of which were selected and cooked under the superintendence of Mr. Grove, and formed an addition to the inevitable tea at the end of the afternoon. It may be of interest to mycophagists to learn that of the species eaten were *Paccillus involutus* and *Lactarius turpis*, two which certainly do not look very inviting when gathered, but, as here proved, perfectly harmless, and, if not particularly delicate, at least edible when more attractive viands are absent. The list of the afternoon's spoils included seven species of *Russula*, five species of *Lactarius*, eighteen white-spored Agarics, and some eight or nine Agarics with coloured spores. Whether any additions were made to the list recorded of the Warwickshire fungi cannot be determined at once, but no individual species of particular and special interest was secured. Had the weather been more propitious, there is no doubt the list would have been materially increased.

HAMPSHIRE FIELD CLUB.—The third annual fungus hunt in the New Forest was taken on Friday, October 25th, under the direction of the Rev. W. L. W. Eyre and M. C. Cooke. The party, numbering in all about five-and-twenty, started from the Lyndhurst Road Station, soon after 9.30, and proceeded through Buskett's Wood to the Kennels, and thence skirting the road to Lyndhurst. The day was fine, pleasant, and agreeable, and the number of species recorded about 140, of which 60 had not previously been entered on the Hampshire list. No species were found that were absolutely new, and few that were rare or interesting. Those most worthy of note were *Ag. (Entoloma)*

*jubatus*, *Ag. (Hypholoma) epixanthus*, and *capnoides*; *Ag. (Mycena) leucogalus*, *Ag. (Hebeloma) testaceus*, *Cantharellus devesus*, *Hydnum gelatinosum*, *Cortinarius talus*, and *Boletus duriusculus*. At an evening meeting, held at the Forest Hotel, the specimens were exhibited, and explained. Some remarks were made by the Chairman (Rev. W. L. W. Eyre) and M. C. Cooke, chiefly in reference to Edible and Poisonous species, and as to what steps should be taken to diffuse certain and useful knowledge amongst the rural population as to what to eat, and what to avoid; the conclusion being that a few of the most approved species should be selected, to which popular vernacular names should be given, and efforts should be made to facilitate the general determination of these species. A short excursion on Saturday morning brought the foray to a close.

## BRITISH PYRENOMYCETES.

BY G. MASSEE.

(Continued from p. 12.)

Fam. 15. CAULICOLÆ, *Fr.* Immersedly innate, usually occurring on the dead stems of herbaceous plants.

GEN. 1. **PHOMATOSPORA**, *Sacc.* Perithecia covered or erumpent, sporidia continuous, hyaline.

\* GENUINA. *Without paraphyses.*

*P. Berkeleyi*, *Sacc. Syll.* 1650; *Hdbk.* 2651 (= *Sphaeria phomatospora*, Berk.).

On potato stalks. Bexley, Weybridge, Highgate, Gloucester.

*P. endopteris*, *Ph. & Pl.*, *Sacc. Syll.* 6383.

On *Pteris*. Leighwood, Bristol.

\*\* PHYSALOSPORA. *Paraphysate.*

*P. euphorbiæ*, *P. & P.*, *Sacc. Syll.* 1666.

On stems of *Euphorbia amygdaloides*. Dinmore.

*P. psoramoides*, *Borr.*, *Sacc. Syll.* 6396.

On thallus of *Parmelia pulverulenta*.

GEN. 2. **DIDYMELLA**. Sporidia uniseptate, hyaline.

\* On Dicotyledons.

*D. planiuscula*, *B. & Br.*, *Sacc. Syll.* 2158; *Hdbk.* 2729.

On herbaceous stems. Batheaston.

*D. superflua*, *Fckl.*, *Sacc. Syll.* 2166.

On nettle. Shere, Lynn.

*D. tosta*, *B. & Br.*, *Sacc. Syll.* 2172; *Hdbk.* 2731.

- On *Epilobium*. Abinger, Shere, Dinmore, Rudloe Bath-easton.  
 D. *commanipula*, B. & Br., Sacc. Syll. 2173; Hdbk. 2730.  
 On capsules of *Scrophularia*. Forfarshire.  
 D. *bryoniæ*, Fckl., Sacc. Syll. 2174.  
 On *Bryonia dioica*. Shere, North Wootton.

\*\* On *Monocotyledons*.

- D. *refracta*, Cooke, Sacc. Syll. 2188.  
 On *Scirpus*. North Wootton.

\* \* \* On *Acotyledons*.

- D. *hyphenis*, Cooke, Sacc. Syll. 2193; Hdbk. 2688.  
 On *Pteris*. Shere.  
 D. *epipolytropa*, Mudd., Sacc. Syll. 6488.  
 On *Lecanora polytropa*.

GEN. 3. **METASPHAERIA**. Sporidia multiseptate, hyaline.

A. On *Dicotyledons*.

\* *Sporidia* 2-4 septate.

- M. *tritorulosa*, B. & Br., Sacc. Syll. 3404; Hdbk. 2770.  
 On *Epilobium*, etc. Batheaston, Shrewsbury, Spye Park.  
 M. *Thwaitesii*, B. & Br., Sacc. Syll. 3420; Hdbk. 2722.  
 On *Helianthus tuberosus*. Batheaston, Bristol.  
 M. *complanata*, Tode, Sacc. Syll. 3421; Hdbk. 2713.  
 On herbaceous stems. Common.

B. On *Monocotyledons*.

\* *Sporidia* 2-3 septate.

- M. *cumana*, S. & Sp., Sacc. Syll. 3486.  
 On leaves of *Carex*.  
 M. *anarithma*, B. & Br., Sacc. Syll. 3477; Hdbk. 2771.  
 On *Aira cæspitosa*. Batheaston.  
 M. *recutita*, Fr. Sacc. Syll. 3484; Hdbk. 2772.  
 On grasses.

\*\* *Sporidia* 5 to many septate.

- M. *sabuletorum*, B. & Br., Sacc. Syll. 3499; Hdbk. 2719.  
 On *Ammophila*. Forres N.B., Hunstanton.  
 M. *acorella*, Cooke, Sacc. Syll. 7040.  
 On *Acorus calamus*. Totteridge.

\* \* \* On *Acotyledons*.

- M. *cetraricola*, Nyl., Sacc. Syll. 3517.  
 On *Oetraria Islandica*. Bræmar.

GEN. 4. **RAPHIDOSPORA.** Sporidia filiform, hyaline.On *Dicotyledons*.

- R. rubella*, Pers., Sacc. Syll. 4017; Hdbk. 2700.  
On herbaceous stems. Common.
- R. urticæ*, Rabh., Sacc. Syll. 4019; Hdbk. 2701.  
On nettle, etc. Darenth, Shere.
- R. ulnasporea*, Cooke, Sacc. Syll. 4020; Hdbk. 2703; fig. 396.  
On nettle. Shere.
- R. acuminata*, Sow., Sacc. Syll. 4025; Hdbk. 2702.  
On thistles, etc. Common.
- R. nigrificans*, Cooke, Sacc. Syll. 4039.  
On *Brassica*. Eastbourne.

On *Monocotyledons*.

- R. cariceti*, B. & Br., Sacc. Syll. 4065; Hdbk. 2707.  
On sedges, etc. Batheaston.
- R. eucrypta*, B. & Br., Sacc. Syll. 4070; Hdbk. 2705.  
On *Iris foetidissima*. Somerset.
- R. helicosporea*, B. & Br., Sacc. Syll. 4072; Hdbk. 2706.  
On *Carex paniculata*. Shere, Batheaston.

\* \* OPHIOCHÆTA. *Perithecia setulose*.

- R. herpotricha*, Fr., Sacc. Syll. 4080; Hdbk. 2704.  
On grasses.

## FUNGI OF BELGIUM.

Dr. Lambotte has just issued the second part of his supplement to "La Flore Mycologique de la Belgique," consisting of 300 pages with plates, containing the Sphærospideæ, Melanconieæ, and Hyphomycetes; comprehending an addition of 850 species since 1880. The plates are in outline, and in a peculiar and unique manner, illustrate the several genera. It need hardly be said that the classification and arrangement is that of Saccardo's "Sylloge," for that will necessarily form the basis of the disposition of all these groups, for some time to come. A catalogue of this kind does not furnish much material for criticism, for it is little more than a catalogue, with the addition of spore measurements to each species, which must be accepted as a decided improvement upon the old method of a barren list, although we cannot affirm that the measurements have been verified, or whether they are simply those of the "Sylloge." In our opinion it would have been an improvement to have added to each species the reference to the page, or the

number, under which it is described in the "Sylloge," in order to facilitate reference. This would not have added a page to the bulk of the "Supplement," and would certainly have saved the student a vast amount of time in turning to Indices.

## BRAITHWAITE'S MOSS-FLORA.

We have so often referred to this work during its progress, that little of commendation is left for us now to say. We are glad to welcome the 12th part, and so will all Bryologists who are interested in the British Moss-Flora. The only drawback is the tardy rate at which the parts make their appearance. However, we must be thankful for small mercies. The present part concludes the Grimmiaceæ, and adds the Schistostegaceæ. It is, moreover, announced to subscribers that the present completes one half of the work. It has occupied nine years to bring us up to the middle; will it take another nine years to bring us to the end? Let us hope that better luck is in store for us.

## INDEX LICHENUM BRITANNICORUM.

BY THE REV. J. M. CROMBIE, F.L.S.

### PART II.

(Continued from Vol. XV., p. 49.)

#### Tribe XVIII. **LECANO-LECIDEÆ**, Nyl.

##### Sub-Tribe I. **Pannariei**, Nyl.

##### Genus I. **PANNARIA**, Del., Nyl.

- Sp. 1 *P. rubiginosa* (Thnb.), Del.  
       *β. cæruleobadia* (Schl.), Mudd.  
 2 *P. brunnea* (Sw.), Nyl.  
       *f. coronata* (Ach.), Nyl.  
 3 *P. nebulosa* (Hffm.), Nyl.  
       *f. biatoroidea*, Cromb.  
 4 *P. Hookerii* (Sm.), Nyl.  
       *β. leucolepis* (Whlbn.), Nyl.

##### Genus II. **PANNULARIA**, Nyl.

- Sp. 1 *P. lepidiota* (Smmrf.), Nyl.  
 2 *P. microphylla* (Sw.), Nyl.  
       *f. cheilea*, Nyl.

- 3 *P. triptophylla* (Ach.), Nyl.  
    *β. incrassata*, Nyl.
- 4 *P. nigra* (Huds.), Nyl.
- \* *P. psotina* (Ach.), Cromb.
- 5 *P. triseptata*, Nyl.
- 6 *P. melantera* (Strn.), Cromb.
- 7 *P. carnosa* (Dcks.), Cromb.  
    *β. determinata* (Nyl.), Cromb.
- 8 *P. delicatula* (Fr. fil.), Nyl.

Genus III. COCCOCARPIA, Pers.

- Sp. 1 *C. plumbea* (Lghft.), Nyl.  
    *β. myriocarpa* (Del.), Nyl.  
    *f. lecanoroidea* Cromb.

Sub-Tribe II. **Lecanorei**, Nyl.

† Genus. LEPROLOMA, Nyl.

- Sp. 1 *L. lanuginosum* (Ach.), Nyl.

Genus I. LECANORA, Ach.

- \* *Psoroma* (Ach.), Nyl.
- Sp. 1 *L. hypnorum* (Hffm.), Ach.  
    *f. deaurata* (Ach.), Nyl.
- \* *Squamaria* (DC.), Nyl.
- 2 *L. crassa* (Huds.), Ach.  
    *f. melaloma*, Ach.
- 3 *L. lentigera* (Webr.), Ach.
- 4 *L. chrysouleuca* (Sm.), Ach.
- 5 *L. cartilaginea* (Westr.), Ach.
- 6 *L. saxicola* (Poll.), Ach.  
    *β. diffracta* (Ach.), Fr. fil.  
    *γ. versicolor* (Pers.), Fr. fil.
- \* *L. albomarginata*, Nyl.
- 7 *L. pruinifera*, Nyl.
- 8 *L. fulgens* (Sw.), Ach.
- \* *Placopsis*, Nyl.
- 9 *L. gelida* (L.), Ach.
- \* *Placodium* (DC.), Nyl.
- 10 *L. elegans* (Link.), Ach.  
    *β. tenuis* (Whltnb.), Ach.
- 11 *L. murorum* (Hffm.), Nyl.  
    *β. corticicola*, Nyl.
- \* *L. tegularis* (Ehrh.), Nyl.

- f. *Arnoldi* (*Wedd.*), *Nyl.*
- β. *obliterascens*, *Nyl.*
- 12 *L. dissidens*, *Nyl.*
- 13 *L. callopisma*, *Ach.*
- \* *L. sympagea* (*Ach.*), *Nyl.*
- 14 *L. cirrochroa* (*Ach.*).
- 15 *L. lobulata* (*Smmrf.*), *Nyl.*
- f. *obliterata* (*Pers.*), *Nyl.*
- 16 *L. scopularis*, *Nyl.*
- 17 *L. miniatula*, *Nyl.*
- 18 *L. granulosa* (*Mull. Arg.*), *Nyl.*
- 19 *L. teicholyta* (*DC.*), *Nyl.*
- f. *arenaria* (*Pers.*).
- 20 *L. Lallavei* (*Clem.*), *Nyl.*
- \* *Leprophlaca*, *Nyl.*
- 21 *L. xantholyto*, *Nyl.*
- \* *Candelaria*, *Nyl.*
- 22 *L. crenata*, *Nyl.*
- 23 *L. laciniosa* (*D.F.*), *Nyl.*
- f. *granulosa*, *Leight.*
- 24 *L. vitellina* (*Ehrh.*), *Ach.*
- f. *corruscans* (*Ach.*), *Nyl.*
- β. *aurella*, *Ach.*
- \* *L. xanthostigma* (*Ach.*), *Nyl.*
- 25 *L. medians*, *Nyl.*
- 26 *L. epixantha* (*Ach.*), *Nyl.*
- \* *Eulecanora*, *Nyl.*
- a *Stirps*; *L. cerinæ*.
- 27 *L. citrina*, *Ach.*
- f. *depauperata*, *Cromb.*
- 28 *L. flavocitrina*, *Nyl.*
- 29 *L. incrustans*, *Ach.*
- 30 *L. aurantiaca* (*Lghft.*), *Nyl.*
- \* *L. erythrella* (*Ach.*), *Nyl.*
- β. *inalpina* (*Ach.*), *Nyl.*
- f. *rubescens* (*Ach.*), *Nyl.*
- 31 *L. crenulatella*, *Nyl.*
- 32 *L. ochracea* (*Schær.*), *Nyl.*
- 33 *L. ferruginea* (*Huds.*).
- β. *festiva* (*Ach.*), *Nyl.*
- f. *crenularia* (*With.*), *Nyl.*
- 34 *L. ferruginascens*, *Nyl.*
- 35 *L. fuscoatra* (*Bayrh.*), *Nyl.*
- 36 *L. concilians*, *Nyl.*
- 37 *L. cæsiorufa* (*Ach.*), *Nyl.*
- 38 *L. nigricans* (*Tuck.*), *Nyl.*
- 39 *L. atroflava* (*Turn.*), *Nyl.*



- 40 *L. Turneriana* (Ach.), Nyl.
- 41 *L. albolutescens*, Nyl.
- 42 *L. cerina* (Ehrh.), Ach.
  - f. 1 *cyanolepra* (DC.), Nyl.
  - 2 *albiseda*, Nyl.
  - β. *stillicidiorum* (Hornem.), Nyl.
- \* *L. chlorina* (Fw.), Nyl.
  - f. *cyanopolia*, Nyl.
- \*\* *L. hæmatites* (Chaub.), Nyl.
- 43 *L. cerinella*, Nyl.
- 44 *L. biloculata*, Nyl.
- 45 *L. pyracea* (Ach.).
  - f. *submersa*, Nyl.
  - β. *pyrithroma* (Ach.), Nyl.
  - f. *picta* (Tayl.), Nyl.
- \* *L. holocarpa* (Ehrh.), Nyl.
- 46 *L. vitellinula*, Nyl.
- 47 *L. luteoalba* (Trun.).
- 48 *L. phlogina* (Ach.).
  - β. *lutea* (Ach.), Nyl.
- 49 *L. irrubata* (Ach.).
- \* *L. calva* (Dcks.).
  - f. *incrustans* (DC.), Cromb.
- \*\* *L. Siebenhaariana* (Krb.), Nyl.
- 50 *L. nivalis* (Krb.), Nyl.
- 51 *L. tetrasticha*, Nyl.
- 52 *L. refellens*, Nyl.
- 53 *L. candicans* (Dcks.), Schær.
- 54 *L. chalybæa* (Duf.), Schær.
- 55 *L. variabilis* (Pers.), Ach.
  - β. *ecrustacea*, Nyl.
  - b Stirps, *L. disparata*, Nyl.
- 56 *L. jejuna*, Nyl.
- 57 *L. spodomela*, Nyl.
  - c Stirps, *L. sophodis*.
- 58 *L. sophodes*, Ach.
  - β. *malangica* (Norm.).
- \* *L. lævigata* (Ach.), Nyl.
- 59 *L. exigua* (Ach.), Nyl.
  - f. *demissa* (Krb.).
  - β. *lecideoides*, Nyl.
- 60 *L. subexigua*, Nyl.
- 61 *L. roboris* (Duf.), Nyl.
- 62 *L. confragosa*, Ach.
  - \* *L. crassescens*, Nyl.
- 63 *L. milvina* (Whlbn.), Ach.
- 64 *L. atrocinerea* (Dcks.), Nyl.

- 65 *L. coniopta*, *Nyl.*
- 66 *L. Bischoffii* (*Hepp.*), *Nyl.*  
    *β. immersa* (*Krb.*), *Cromb.*
- 67 *L. colobina*, *Ach.*
- 68 *L. Conradi*, (*Krb.*), *Nyl.*
- 69 *L. diplinthia*, *Nyl.*
- 70 *L. umbrinofusca*, *Nyl.*
- 71 *L. teichophila*, *Nyl.*
- 72 *L. æquata*, *Ach.*
- 73 *L. polyspora* (*Fr. fil.*), *Nyl.*
- 74 *L. isidioides* (*Borr.*), *Nyl.*  
    *d Stirps, L. alphoplacæ*, *Ach.*
- 75 *L. melanaspis*, *Ach.*
- 76 *L. circinata* (*Pers.*), *Ach.*  
    *f. myrrhina* (*Fr.*).
- \* *L. sub-circinata*, *Nyl.*
- 77 *L. circinatula*, *Nyl.*

(To be continued.)

---

## CRYPTOGAMIC LITERATURE.

- ROUMEGUERE. *Fungi Gallici*, Cents 50.51.
- CAVARA, F. *Materiaux de Mycologie Lombarde*, in "Revue Mycologique," Oct., 1889.
- SACCARDO, P. A., and BERLESE, N. *Fungi Guineensis*, in "Revue Mycologique," Oct., 1889.
- KARSTEN, P. A. *Aliquot species novæ fungorum; Fungi novi Brasiliensis*, in "Revue Mycologique," Oct., 1889.
- BRAITHWAITE, R. *British Moss Flora*, part xii., *Grimmiaceæ, Schistostegaceæ*.
- HEIMERL, A. *Die Niederösterreichischen Ascoboleen*.
- LEVI-MORENOS, D. *Ricerche sulla fitofagia della larve di Friganea*.
- RICHARDS, H. M. *The Uredo stage of Gymnosporangium*, in "Botanical Gazette," Sept., 1889.
- LAMBOTTE, Dr. *Flora Mycologique de la Belgique*, 2nd supplement.
- SEYMOUR, A. B. *Fungi collected in 1884 along the North Pacific Railroad*, in "Proceedings Boston Society of Nat. Hist.," 1889.

WEST, W. Fresh Water Algæ of North Yorkshire, in "Journal of Botany," Oct., 1889.

MURRAY, G. Catalogue of Marine Algæ of the West Indian Region, in "Journ. Bot.," Oct., 1889.

MCARDLE, D. Hepaticæ of Co. Wicklow, in "Journal of Botany," Sept., 1889.

LAGERHEIM, G. Note sur le Chætomorpha Blancheana, in "Notarisia," July, 1889.

DE TONI, G. B. Interna al genere *Ecklonia*, in "Notarisia," July, 1889.

ARTHUR, J. C. Smut of wheat and oats, in "Bulet. Agri. Exp. Station of Indiana."

SACCARDO, P. A. *Mycetes Sibirici*.

FARLOW, W. G. Notes on Fungi, No. 1, in "Botanical Gazette," Aug., 1889.

UNDERWOOD, L. M. Notes on Hepaticæ, in "Botanical Gazette," Aug., 1889.

REHM, H. Exotische Ascomyceten, in "Hedwigia," Sept., 1889.

MOBINS, M. Bearbeitung der von H. Schenck, in Brasilien Algen, in "Hedwigia," Sept., 1889.

NOBDESTEDT, O. De Algis et Characeis, "Trans. Univ. Lund.," t. xxv., 1889.

STEPHANI. Deux nouvelles especes du *Riccia*, in "Revue Bryologique," 1889.

OUDEMANS, C. J. A. Contributions to the Mycologic Flora of the Netherlands, xiii.

CRISP, F., and OTHERS. Summary of current researches in Cryptogamia, etc., in "Journ. Royal Micro. Society," Aug., 1889.

SPRUCE, R. *Lejeunea Rossettiana*, in "Journal of Botany," Nov., 1880.

COOKE, M. C. Illustrations of British Fungi, parts lxx., lxxi.

COOKE, M. C. Edible British Fungi, Nos. 1, 2, 3, in "The World's Provider," Oct., Nov., Dec.

COOKE, M. C. Gigantic Fungi, in "Woolhope Transactions."

# Grevillea,

A QUARTERLY RECORD OF CRYPTOGAMIC BOTANY  
AND ITS LITERATURE.

---

## AUSTRALIAN FUNGI.

By M. C. COOKE.

(Continued from p. 26.)

**Sphaeropsis (Macropodia) phomatoides, C. & M.**

Hypophyllous. Perithecia scattered over irregular brown spots, caused by some mining larvæ, convex, at first covered, black, pierced with a pore. Sporules elliptic, rounded at the ends, nucleate, amber-brown ( $8 \times 4.5 \mu$ ), on rather short, curved basidia.

On *Eucalyptus* leaves. Victoria. (Martin, 473.)

**Capnodiastrum orbiculatum, Cke. & Mass.**

Hypophyllous. Spots orbicular (3 mm. diam.), consisting of a black interwoven mycelium. Perithecia minute, globose, sub-membranaceous, seated on the mycelium. Spores (not contained in asci) elliptical, brown, with a paler band across the centre,  $12 \mu \times 4 \mu$ .

On coriaceous leaves. Bellenden Ker, Queensland. (Bailey, 818.)

---

## FUNGI OF MADAGASCAR.

Collected by MR. SCOTT ELLIOT.

*Schizophyllum commune*, Fr.

*Lentinus exilis*, Kl. (2761).

*Lenzites repanda*, Fr., var. (3006).

„ *Beckleri*, B.

„ *applanata*, Fr. (2755).

*Fomes lucidus*, Fr. (2804).

„ *annosus*, Fr. (3008).

„ *cingulatus*, Berk. (2789).

- Fomes rubiginosus*, Berk.  
*Polystictus flabelliformis*, Fr. (2764).  
     ,, *sanguineus*, Fr.  
     ,, *scruposus*, Fr. (2796).  
     ,, *occidentalis*, Fr. (2735).  
*Poria vulgaris*, Fr.  
*Trametes gausapatius*, B. & C. (2902).  
*Irpex flava*, Jungh.  
*Hymenochaete tenuissima*, Berk.  
*Cyphella* (*Phæosporæ*) *fulvodisca*, C. & M.  
*Hirneola auricula judææ*, Fr. (2861).  
*Tryblidiella rufula*, Spr.  
*Peziza* (*Tarsetta*) *aluticolor*, Berk.  
*Nectria saccharina*, Berk.  
     ,, *adelphica*, C. & M.  
*Valsa ceratophora*, Tul.  
     ,, *monadelpha*, Fr.  
*Phyllachora graminis*, Pers.  
*Æcidium oxalidis*, Thum.  
*Puccinia malvacearum*, M.  
*Uredo campanularum*, C. & M.

***Cyphella* (*Phæosporæ*) *fulvodisca*, Cke. & Mass.**

Gregaria. Cupulis breviter stipitatis, cyathiformibus, albidis, pilis brevissimis hyalinis obductis ( $\frac{1}{2}$  mm. diam.), margine tenui, incurvo, Hymenio lævi, fulvo. Sporis ellipticis, nucleatis, fulvis ( $7-8 \times 4-5 \mu$ .)

On decorticated branches. Fort Dauphin, Madagascar. (Scott Elliot.)

***Diploderma pachythrinx*, Cke. & Mass.**

Subglobose; exoperidium thin, fragile, cinereous; endoperidium subcartilaginous, thin, persistent, pallid; capillitium consisting of thick parallel fibres composed of thick-walled, hyphæ agglutinated in bundles and radiating from a central woody nucleus to the endoperidium; spores pale ochraceous, elliptical, minutely warted,  $9-10 \times 4-5 \mu$ .

Tarwin, Victoria. (Mrs. Martin, 459.)

Subterranean about 1 in. in diameter. The coarse capillitium, consisting of strands of agglutinated hyphæ, resembles in appearance the fibrous portion of the pericarp of a cocoanut.

***Uredo campanularum*, C. & M.**

Hypophylla. Soris pallidis, sparsis, sub-bullatis, diu integris, demum fissuratis, pulverulentibus. Uredosporis oblongis, leniter asperulis, pallide flavescentibus,  $16 \times 12 \mu$ .

On leaves of *Lightfootia*. Fort Dauphin, Madagascar. (Scott Elliot, No. 2690.)

**Nectria adelphica**, *Cke. & Mass.*

Cæspitosa. Peritheciis in cæspitulos minutos (4-10), stromate aggregatis, globosis, compressis vel difformibus, lævibus, cinna-  
barinis, ostiolo distincto pertusis, vix collabentibus; ascis cylindraceis, octosporis; sporidiis ellipsoideis, magnis, uniseptatis, vix medio constrictis, utrinque subconoideis, hyalinis ( $30-35 \times 10 \mu$ ), nucleatis, demum leniter longitudinaliter striatulis.

On branches. Fort Dauphin, Madagascar. (*Scott Elliot*.)

Habit and appearance resembling *N. coccinea*.

## NEW BRITISH FUNGI.

By M. C. COOKE.

(Continued from p. 28.)

**Agaricus (Lepiota) emplastrum**, *Cke. & Mass.*

Pileus convex, then expanded (2-3 inches), silky, pallid, covered at first with a smooth, membranaceous, dark-brown cuticle, which splits up into large, adherent, plaister-like patches or scales, margin smooth, naked. Stem equal, fibrillose ( $3 \text{ in.} \times \frac{1}{2} \text{ in.}$ ), fistulose, girt by a superior erect ring, with a marginal brown band. Flesh turning pink when cut, gills crowded, free, remote, narrowed behind, leaving a broad collar round the stem. Taste and smell none. Spores apiculate at one end, nucleate, large, white,  $20 \times 10-12 \mu$ .—*Cooke Illus. Suppl. t. 1164*.

Gregarious, amongst grass in a churchyard. Ealing, Oct., 1887.

Somewhat resembling *A. Badhami*, but scales smooth and spores larger.

**Agaricus (Tricholoma) fallax**, *Peck 25 Report, t. 1, f. 5-8*.

Pileus firm, convex, expanded, rarely depressed in the centre, moist, smooth, yellow (sometimes rufous at the disc), about 1 in. diam. Stem short, smooth, yellow, stuffed, then hollow, sometimes attenuated at the base (1 in. long). Gills rounded behind, crowded, white, then yellowish. Spores 4-5  $\mu$  long, ovate.—*Cooke Illus. Suppl. t. 1151 A*.

Under firs. Scarboro', March, 1883.

Allied to *Ag. cerinus*, P.

**Agaricus (Collybia) thelephorus**, *Cke. & Mass.*

Pileus rather fleshy, campanulate, with an acute mammillate umbo (1 to  $1\frac{1}{2}$  inch diam.), ochraceous, becoming darker and fuliginous at the apex, margin at first incurved, then repand, faintly striate. Stem cylindrical, equal, hollow, purple at the base, paler at the apex (3-4 in. long), slender, smooth. Gills broadest behind, adnate, rather crowded, spores  $8-10 \times 6 \mu$ .—*Cooke Illus. Suppl. t. 1167*.

In peat bogs. Scarboro'.

Near ally to *Ag. collinus*.

**Agaricus (Flammula) nitens, Cke. & Mass.**

Cæspitose. Pileus hemispherical, convex, then expanded, obtuse ( $1\frac{1}{2}$  in. diam.), shining, dry, somewhat silky, purple brown, stem ( $2\text{--}3$  in.  $\times$   $\frac{1}{2}$  in.) equal, solid, flesh coloured, fibrillose. Gills crowded, adnate, margin entire, pallid, then umber. Spores almond-shaped, pale brown ( $10 \times 5\text{--}7$   $\mu$ ).—*Cooke Illus. Suppl. t.* 1154.

On the ground. Carlisle, Sept., 1887.

**Agaricus (Inocybe) fasciatus, Cke. & Mass.**

Cæspitose. Pileus campanulate-convex ( $2\text{--}3$  in. diam.), tawny, rufous at the disc, silky, clad with minute, darker, squarrose scales, flesh thin; stem slender, equal, or a little attenuated below ( $2\text{--}3$  in. long), fibrillose, solid, reddish within and without at the base, pallid above. Gills crowded, attenuated in front, rounded behind, or slightly sinuate, thin, soft, pallid. Spores rough,  $10 \times 6$   $\mu$ . Odour and taste none.—*Cooke Illus. Suppl. t.* 1173.

On the ground. Kew Gardens.

**Agaricus (Inocybe) violaceo-fuscus, Cke. & Mass.**

Subcæspitose. Pileus convex, expanded, obtusely umbonate ( $1\text{--}2$  in. diam.), flocculose, fibrillose, concentrically squamose, dry, umber, margin thin, torn, and fimbriate, stem solid ( $2\text{--}2\frac{1}{2} \times \frac{1}{4}$  in.), violet above within and without, pallid below, smooth or silky, equal, flesh pallid when old. Gills broad, scarcely crowded, adnate or emarginate, violet, then umber, margin paler, serrulate. Veil at first whitish. Spores smooth,  $7\text{--}8 \times 4$   $\mu$ .—*Cooke Illus. Suppl. t.* 1174.

Amongst grass, in open places. Park End, Forest of Dean.

**Agaricus (Maucoxia) obtusus, Cke. & Mass.**

Pileus campanulate, obtuse, smooth, becoming faintly striate about the margin, rufous, becoming paler (not much exceeding an inch broad and high); stem equal, fistulose, flesh colour, darker within, especially at the base ( $2$  in.  $\times$   $\frac{1}{4}$  in.), smooth. Gills broadly adnate, or with a tooth, broad, ventricose, with a serrate edge. Spores rubiginous,  $7\text{--}8 \times 4$   $\mu$ .—*Cooke Illus. Suppl. t.* 1155.

On the ground. Scarboro'.

Allied to *Ag. Christinae*.

**Agaricus (Maucoxia) nasutus, Kalch. Grev. VIII., 152, t. 142, f. 9.**

Pileus thin, rather fleshy, campanulate, terminated by a long papillæform umbo, margin striate or sulcate, smooth, ochraceous. Stem fistulose, equal, flexuous, fibrillose, rather ferruginous; gills emarginate, with a decurrent tooth, somewhat crowded, broad, ventricose, ferruginous.—*Cooke Illus. Suppl. t.* 1172 B.

In swampy places. Scarboro'. Spores  $13\text{--}14 \times 7\text{--}8$   $\mu$ .

**Agaricus (Galera) siligineus, Fries Hym. Eur. 267.**

Pileus membranaceous, globose-campanulate, then expanded, unequal, even, not turning pale; stem rather flexuous, equal, pallid,

somewhat pruinose; gills adnate, broadly linear, rather crowded, ochre.—*Cooke Illus. Suppl. t. 1156.*

On road scrapings. Scarboro'.

The variety figured turns pale when dry, thus differing from the type. Spores  $12 \times 7 \mu$ .

**Agaricus (Tubaria) muscorum, Pers. Syn. 470.**

Pileus membranaceous, convex, depressed in the centre, striate, smooth, tawny yellow; stem fistulose, short, of the same colour, incrassated at the base, gills rather decurrent, horizontal, paler.—*Fries Hym. Eur. 274. Cooke Illus. Suppl. t. 1175 B.*

Amongst moss on heaths. Scarboro'.

**Agaricus (Hypholoma) inistratus. Britz. Melan. f. 110.**

Cæspitose. Pileus hemispherical, convex, broadly umbonate (1 in. or more), dark brown, radiately rugose, stem hollow, equal white and smooth above, fibrillose or squamulose below, veil white, appendiculate. Flesh brownish. Gills subventricose, adnate, brown, then purple brown, paler at the edge. Spores  $8 \times 4 \mu$ .—*Cooke Illus. Suppl. t. 1157.*

On stumps, near Shrewsbury.

Possibly these specimens belong to the above species of Britzelmeier, but we have been compelled to expand the description.

**Bolbitius grandiusculus, Cke. & Mass.**

Pileus campanulate, expanded (1-2 in diam.), smooth, pallid and faintly striate at the margin, rufous at the apex, stem smooth, white, fistulose, slender, gradually attenuated upwards (3-4 in. long), gills crowded, linear, narrow, attenuated behind and free, rusty ochre. Spores  $15 \times 5 \mu$ .—*Cooke Illus. Suppl. t. 1159.*

Amongst grass, on the cliffs. Scarboro'.

**Polystictus (Stuposi) Abula, Fr. Hym. Eur. 567.**

Whitish. Pileus coriaceous, soft, tough, velvety, without zones, sometimes radiately rugose, white within, margin entire, acute; pores small, rounded, acute, at length torn, turning yellowish.

On stumps, &c. Carlisle, Holm Lacey, Epping, near Bristol.

About the size of *P. versicolor*, but thicker, pores longer, surface less hairy, not distinctly zoned. Evidently not uncommon.

**Othia cratægi, Fekl., Sacc. Syll., No. 2781.**

Perithecia aggregated in dense tufts, rather large, black, globose, minutely papillate, at length perforate; asci stipitate, cylindrical, eight-spored. Sporidia ovate, oblong, uniseptate, constricted, brown ( $25-28 \times 12-14 \mu$ ).

On branches of *Cratægus*. Newcastle-on-Tyne.

**Phoma laminariæ, Cke. & Mass.**

Perithecia gregarious, membranaceous, erumpent, depressedly globose, black, pierced at the apex with a minute pore, sporules profuse, elliptical, hyaline ( $8-10 \times 3 \mu$ ).

On decaying fronds of *Laminaria*. West Kilbride, Ayrshire. (*D. A. Boyd.*)



**Dichomera Laburni** (*West p.p.*) *Cke. & Mass.*

Erumpent, cæspitose. Perithecia globose, black, opaque, crowded in considerable numbers upon a definite stroma (5 mm. diam). Sporules elliptical, 3 septate, with one or more longitudinal septa, fuliginous ( $22-25 \times 7 \mu$ ) on short stylospores.

On *Laburnum*. Blakey, Leicester. (*W. A. Vice.*)

This may be a form of *Camarosporium Laburni*, but at any rate it more closely resembles *Cucurbitaria Laburni* in being distinctly cæspitose, on a definite stroma; sporules commonly triseptate, and smaller than in *Camarosporium Laburni*.

## FUNGI OF JAVA.

By M. C. COOKE.

The following is portion of a collection made by Mr. Kurz, and communicated to the Rev. M. J. Berkeley:—

**Agaricus (Mycena) bambusarum**, *Berk. MSS.*

Fasciculatus vel sparsus, albus; pileo orbiculari, convexiusculo, lævi, obsolete umbonato (1 unc. diam.); stipite teretiusculo, fistuloso, lævi (1 unc. long); lamellis confertis, lanceolatis, didymis, sæpe anastomosante-ramosis, acute-adnatis, albis.

Ad truncos Bambusarum. Bogor. (*Kurz*, 240).

**Agaricus (Mycena) tintinnabulum**, *Fries.*

Ad truncos. Bogor (*Kurz*, 544).

**Agaricus (Omphalia) reversus**, *Berk.*

Solitarius; pileo carnoso, suborbiculari, reverso, conico-umbonato, flavescens-albido (sub 1 unc. diam.); stipite rectiusculo, fistuloso, lævi (1 unc. long); lamellis distantibus, crassis, acie obtusis, lanceolatis, decurrenti-adnatis, albidis.

Ad terram argillaceam. Bogor. (*Kurz*, 324).

**Agaricus (Pholiota) alutisporus**, *Berk.*

Gregarius, gracilis, nonnunquam fasciculatus, sordide albus; pileo convexiusculo, conico vel obsolete umbonato, sub lente lævi, v. ruguloso, membranaceo ( $\frac{1}{2}$  unc. diam.). Stipite fistuloso, annulato, tereti, elongato, lævi; lamellis confertis, lanceolatis, obtuse-adnatis, cum sporis alutaceis.

Ad terram argillaceam humidum. Bogor. (*Kurz*, 333).

**Agaricus (Naucoria) multiferus**, *Berk.*

Cæspitosus. Pileo hemispherico, obsolete umbonato, sparse granuloso, cinerascens (in colorem testaceam vergens) in statu senili quidquam obsolete plicato, membranaceo, subcoriaceo; stipite longiusculo, tereti, fistuloso, subglabro, brunnescente vel sordidissimo albo, fibroso-carnosulo; lamellis confertis, lineari-lanceolatis, rotundato-adnatis. Sporis fulvis,  $6-7 \times 3 \mu$ .

Ad margines viarum. Bogor. (*Kurz*, 525).

**Agaricus (Naucoria) micromegas, Berk.**

Sparsus vel solitarius, ferrugineus vel fulvus. Pileo obtuso-conico, plicato, lævi; membranaceo; stipite tereti, fistuloso, lævi; lamellis subdistantibus, latis, acute-adnatis.

Ad lignum putridum. Bogor. (*Kurz*, 296).

**Agaricus (Stropharia) indusiatus, Berk.**

Fasciculatus vel gregarius, albus, dein brunnescens, siccitate sordide purpurascens; pileo orbiculari, convexiusculo, adnato-squamuloso, sericeo, carnosulo, in disco membranaceo ( $\frac{1}{3}$ - $\frac{3}{4}$  unc. lat.). Stipite tenax, tereti, fistuloso, lævi, fibroso-carnoso, superne adpressevelato, sub albido (senioribus sæpe annulatis); lamellis lanceolatis, confertissimis, fulvis.

Ad terram argillaceam. Bogor. (*Kurz*, 514).

**Agaricus (Stropharia) pseudopsathyra, Berk.**

Sparsus vel subgregarius; pileo e convexo suborbiculari-plano, sublævi, sordide albo, in colorem violascentem vergente, carnosulo; stipite sordide albo, fistuloso, tereti, lævi, velato; annulo tenui; lamellis linearibus, confertissimis.

Ad terram argillosam. Bogor. (*Kurz*, 325).

**Agaricus (Psathyra) subvinosus, Berk.**

Fasciculatus vel gregarius; pileo hemispherico, obtuso, senectate explanato, in statu juniore carnosulo dein submembranaceo, primo molli, subglabro, dein venuloso, albo, ad marginem sordide violaceo, striato; stipite tereti, fistuloso, albo, fibroso-carnosulo; lamellis confertissimis, linearibus, obtuse-adnatis, albidis dein sordide violaceo fuscis.

Ad lignum putridum. Bogor. (*Kurz*, 260).

**Hiatula pusilla, Berk.**

Gregarius vel sparsus, albus, pellucidus; pileo campanulato, margine deplanato, dein explanato, obsolete plicato, pilis hyalinis sparsis adperso, membranaceo (1-2 mm. diam.). Stipite tereti, fistuloso, lævi; lamellis simplicibus, distantibus, angustissimis, costæformibus, marginem versus sæpissime evanidis.

Ad ramos putridos. Bogor. (*Kurz*, 268).

**Marasmius similis, Berk. & Curt.**

(*Kurz*, 257.)

**Polystictus extensus, Berk.**

On dead wood. (*Kurz*, 517.)

**Polystictus hirsutus, Fries.**

On dead branches. (*Kurz*, 517.)

**Laschia tremellosa, Fries.**

On wood. (*Kurz*, 519.)

**Stereum (Apus) Kurzianum, Cooke.**

Submembranaceum, molle, tenue, pileo effuso-reflexoque, minutissime velutino, sæpe subruguloso, cervino (3 unc. et ultra  $\times$  1 unc.). Hymenio glabro, pruinoso, carneo-fusco. Spor.  $7 \times 5 \mu$ .

On logs. Java. (*Kurz*, 518.)

When dry almost like brown paper. Near *S. bicolor*.

**Thelephora anthocephala**, *Fr.*

On the ground. (*Kurz*, 527.)

**Clavaria fragilis**, *Fr.*

On the ground. (*Kurz*, 527.)

**Calocera cornea**, *Fr.*

On wood. (*Kurz*.)

**Cyathus Montagnei**, *Tul.*

On chips. (*Kurz*, 521.)

**Physarum cinereum**, *Fries.*

On leaves, etc. (*Kurz*, 551.)

**Stemonitis fusca**, *Roth.*

On rotten wood. (*Kurz*, 545, 533.)

**Arcyria punicea**, *Pers.*

On rotten wood. (*Kurz*, 550.)

**Hemiarcyria clavata**, *Pers.*

On wood. (*Kurz*, 552.)

**Hemiarcyria serpula**, *Ditm.*

On chips. (*Kurz*, 540, 539.)

**Xylaria ventricosa**, *Berk.*

On wood. (*Kurz*, 256.)

**Nectria sanguinea**, *Fries.*

On branches. (*Kurz*, 553.)

**Hypoxyton confuens**, *Tode.*

On wood. (*Kurz*, 269.)

**Conisphaeria palmicola**, *Fr.*

On palm petioles. (*Kurz*, 538.)

**Peziza (Mollisia) vulgaris**, *Fr.*

On branches. (*Kurz*, 258.)

**Phoma acmella**, *Berk.*

On leaves of *Podocarpus*. (*Kurz*, 549.)

**Ceratium hydnoides**, *A. & S.*

On wood. (*Kurz*.)

**Pachnocybe subulata**, *Berk.*

On wood. (*Kurz*, 323.)

**Alternaria pulvinata**, *C. & M.*

*Grisea, pulvinata* (1-1½ mm. diam.). Hyphis erectis, densissime fasciculatis, pulvinulis hemisphaerico-depressis efformantibus, conidiis ovoideis, utrinque acuminatis, clathrato-septatis, fuscis, 65-70 × 30-35 μ, demum opacis, isthmis subhyalinis.

On palm trunks. Java. (*Kurz*, 529.)

## BRITISH PYRENOAMYCETES.

BY G. MASSEE.

*(Continued from p. 42.)*GEN. 5. **ANTHOSTOMELLA.** Sporidia simple, coloured.\* EUANTHOSTOMELLA. *Sporidia obtuse.*

A. phæosticta, Berk., Sacc. Syll. 1034 ; Hdbk. 2699.

On *Carex pendula*. Batheaston.

A. tomicum, Lev., Sacc. Syll. 1045 ; Hdbk. 2654.

On stems of *Juncus*. Spye Park.GEN. 6. **DIDYMOSPHERELLA.** Sporidia uniseptate, coloured.\* EUIDIDYMA. *Epidermis not blackened.*

D. conoidea, Nsl., Sacc. Syll. 2644.

On herbaceous stems. Bristol.

D. empetri, Fries, Sacc. Syll. 2657.

On *Empetrum nigrum*.

D. palustris, B. &amp; Br., Sacc. Syll. 2674 ; Hdbk. 2698.

On dead leaves of *Iris*, *Carex*, &c. Spye Park, Wilts, N. Wootton, Batheaston.D. microstictica, Leight., Sacc. Syll. 6589 (= *Verrucaria microstictica*, Leight.).On *Acaraspora fuscata* and *A. cervina*.\*\* MICROTHELIA. *Epidermis blackened.*

D. tenebrosa, B. &amp; Br., Sacc. Syll. 2685 ; Hdbk. 2679.

On *Arctium*. King's Cliffe. Batheaston.GEN. 7. **HEPTAMERIA.** Sporidia multiseptate, coloured.I. LEPTOSPHERIA. *All joints coloured.*A. On *Dicotyledons*.

† Sporidia 2-3 septate.

\* *Perithecia smooth.*

H. doliolum, Pers., Sacc. Syll. 2895 ; Hdbk. 2710.

On herbaceous stems. Common.

H. conoidea, Not., Sacc. Syll. 2896 ; Hdbk. 2710 (in part).

On herbs. Weybridge.

- H. Clivensis*, *B. & Br.*, *Sacc. Syll.* 2904 ; *Hdbk.* 2695.  
 On stems of *Arctium*, *Senecio*, &c. Darenth Wood, Kent,  
 King's Lynn.
- H. nigrella*, *Rab.*, *Sacc. Syll.* 2922 ; *Hdbk.* 2728.  
 On *Angelica*. Rockhampton, King's Cliffe.
- H. aparines*, *Fckl.*, *Sacc. Syll.* 2926.  
 On *Galium aparine*. King's Lynn.
- H. glæospora*, *B. & C.*, *Sacc. Syll.* 2941 ; *Hdbk.* 2696.  
 On *Artemisia absinthium*. Fleetwood.

\*\* *Perithecia* hairy.

- H. echinella*, *Cke.*, *Sacc. Syll.* 3182 ; *Hdbk.* 2723.  
 On *Atriplex*. Kentish Town, King's Lynn.

†† *Sporidia* 5 septate.

- H. planiuscula*, *B. & Br.*, *Sacc. Syll.* 2966 ; *Hdbk.* 2729.  
 On *Solidago*. Chiselhurst.
- H. Ogilviensis*, *B. & Br.*, *Sacc. Syll.* 2791 ; *Hdbk.* 2717.  
 On stems of nettle, ragwort, &c. Shere, Leigh Wood.
- H. maculans*, *Desm.*, *Sacc. Syll.* 2977 ; *Hdbk.* 2687.  
 On *Sisymbrium*, *Solanum*, &c. Shere, Darenth, Terrington.

††† *Sporidia* 6-16 septate.

- H. agnita*, *Desm.*, *Sacc. Syll.* 2996 ; *Hdbk.* 2711.  
 On *Eupatorium*. Irstead, Shrewsbury.
- H. acuta*, *Mont.*, *Sacc. Syll.* 2997 ; *Hdbk.* 2708 (= *conformis*,  
*Fr.*).  
 On nettle stems. Common.
- H. derasa*, *B. & Br.*, *Sacc. Syll.* 2998 ; *Hdbk.* 2714.  
 On *Senecio*, Rosslyn, Shere, Twycross.
- H. pellita*, *Rab.*, *Sacc. Syll.* 2999 ; *Hdbk.* 2709.  
 On *Atriplex*. King's Lynn.

B. Growing on fruits.

- H. lunariæ*, *B. & Br.*, *Sacc. Syll.* 3508 ; *Hdbk.* 2694.  
 On dry capsules of *Lunaria rediviva*.

C. On Monocotyledons.

† *Sporidia* 2-4 septate.

- H. Michotii*, *West.*, *Sacc. Syll.* 3066 (= *biseptata*, *Awd.*, &  
*trimera*, *Sacc.*).  
 On leaves of grasses and sedges. Lynn, Neatishead, Hants.
- H. personata*, *Nsl.*, *Sacc. Syll.* 3068.  
 On *Glyceria fluitans*. Lynn.
- H. microscopica*, *K.*, *Sacc. Syll.* 3069.  
 On *Phragmites communis*. Shere.

- H. marram*, Cke., *Sacc. Syll.* 3070.  
On *Anmophila*. Happisburgh.
- H. arundinacea*, Sow., *Sacc. Syll.* 3081; *Hdbk.* 2623.  
On *Phragmites communis*. Irstead, Lynn, Kew, King's Cliffe.
- H. typharum*, Desm., *Sacc. Syll.* 3086.  
On *Typha*. Kew, N. Wootton.
- H. epicarecta*, Cooke, *Sacc. Syll.* 3090.  
On *Carex*. Shere.
- H. juncina*, Awd., *Sacc. Syll.* 3094.  
On *Juncus*. N. Wootton.
- H. triglochinnicola*, Curr., *Sacc. Syll.* 3107; *Hdbk.* 2721.  
On stems and carpels of *Triglochin palustre*. Ringmer, Sussex.

†† *Sporidia* 5 septate.

- H. nigrans*, Desm., *Sacc. Syll.* 3108; *Hdbk.* 2716.  
On grass leaves. Shere, Neatishead.
- H. culmicola*, Fr., *Sacc. Syll.* 3110.  
On grass leaves. Highgate.
- H. nardi*, Fr., *Sacc. Syll.* 3115.  
On *Nardus stricta*. Thringstone, N. Wootton.
- H. epicalamia*, Riess., *Sacc. Syll.* 3117.  
On *Luzula*, *Triticum*, &c. Shere, Holloway.
- H. maritima*, C. & Pl., *Sacc. Syll.* 3118.  
On *Juncus maritimus*. N. Wootton.
- H. Norfolkia*, Cke., *Sacc. Syll.* 3119.  
On *Eleocharis* and *Juncus*. Hunstanton, N. Wootton, Tooting.
- H. clara*, Cke., *Sacc. Syll.* 3121.  
On glumes of *Festuca*. Sandgate, Neatishead.
- H. vectis*, B. & Br., *Sacc. Syll.* 3123; *Hdbk.* 2715.  
On *Iris*. Darenth, Newton, Forden.
- H. rusci*, Waltr., *Sacc. Syll.* 3124; *Hdbk.* 2762.  
On *Ruscus aculeatus*. Kew.

††† *Sporidia* 6-16 septate.

- H. culmifraga*, Fr., *Sacc. Syll.* 3126; *Hdbk.* 2624.  
On grass stems. Irstead, Highgate, King's Cliffe.
- H. graminis*, Fckl., *Sacc. Syll.* 3131.  
On *Phragmites communis*. Terrington.
- H. rubelloides*, Plow., *Sacc. Syll.* 3132.  
On *Triticum repens*. King's Lynn.
- H. pontiformis*, Fckl., *Sacc. Syll.* 3136.  
On grass. King's Lynn.
- H. duplex*, Sow., *Sacc. Syll.* 3180.  
On *Sparganium*.

H. Sowerbyi, *Fckl.*, *Sacc. Syll.* 3139.  
On *Scirpus*.

D. On *Acotyledons*.

H. caninæ, *Plow.*, *Sacc. Syll.* 3148.  
On *Peltigera*. Dunsley.

H. parmeliarum, *P. & P.*, *Sacc. Syll.* 3158.  
On *Parmelia saxatilis*. N. Wales.

H. lemaneæ, *Cohn.* (*fluviatilis*, *P. & P.*), *Sacc. Syll.* 3160.  
On *Lemanea*. Longmynd.

III. CLYPEOSPHERIA. *Perithecia clypeate. Sporidia triseptate.*

H. hyperici, *Plow.*, *Sacc. Syll.* 3197.  
On *Hypericum perforatum*. Castle Rising.

IV. REBENTISCHIA. *Sporidia septate, caudate.*

H. unicaudata, *B. & Br.*, *Sacc. Syll.* 2892 ; *Hdbk.* 2680.  
On *Clematis vitalba*. Darenth, Batheaston.

MEMORABILIA.

SPHERIA CARYOPHAGA, *Schwein. Amer. Bor. No.* 1594, *Sacc.* No. 4332 ; *Sphaeria nuclearia*, *De Not. Micr. Ital.*, ix., p. 462, f. iv. ; *Trematosphaeria nuclearia*, *Sacc. Syll.* No. 3308 ; *Sphaeria* (*Pertusæ*) *Curtisii*, *Berk.* in *Curt. Catalogue*, p. 145 (from authentic specimen from Dr. Curtis) ; *Hypoxyylon nucitena*, *B. & C.*, *North Amer. Fungi No.* 844 ; *Melanomma?* *nucitena*, *Sacc. Syll.* No. 3239. From authentic specimens of Schweinitz, Berkeley, and Curtis, and the figure and description by Notaris, we are satisfied that the above are all one species. Sporidia triseptate, two middle cells dark-brown, extreme cells hyaline,  $015-018 \times 005$  mm. The colour is often so deep as to mask the central septum, which has caused some discrepancies in the descriptions.

CHROMOSPORIUM ISABELLINUM, *Ellis & Sacc.*, *N. A. Fungi No.* 1391, is the same as *Chromosporium pactolinum*, *Cke. & Hark.*, "*Grevillea*," ix., 81.

CALOGLOSSA LEPRIEURII, *J. Ag.*—This alga, whose distribution is stated by Agardh to be the warmer Atlantic shores of America, and Australia, and New Zealand, has also been found in the following localities :—Bonin Islands (C. Wright), Kelani River, Ceylon (Fergusson), Mauritius (Col. Pike), and Akassa, West Africa. A variety *subtilissima* also occurs at Calcutta.

## SYNOPSIS PYRENOMYCETUM.

(Continued from p. 38.)

GEN. 9. **PLEOSPORA.** Perithecia sparsa, erumpentia, sporidia muriformia.

\* EU-PLÆOSPORA. Peritheciis submembranaceis, sporidia colorata.

A. In *Dicotyledoneis*.† *Sporidia 3 septata.*

4988. oligomera, <i>S. &amp; Sp.</i> 3713	4996. labiatarum, <i>C. &amp; Hk.</i> ... 3717
4989. baccata, <i>Ellis</i> ... 7068	
4990. bardanæ, <i>Nsl.</i> ... 3714	4997. papaveracea, <i>Not.</i> 3718
4991. aurea, <i>Ellis</i> ... 7069	4998. permunda, <i>Cke.</i> ... 3719
4992. refracta, <i>K. &amp; C.</i> ... 3715	4999. compressa, <i>Hark.</i> 7072
4993. cheiranthi, <i>Cocc.</i> ... 7070	5000. cassiæ, <i>Ell. &amp; Ev.</i> 7073
4994. asperulæ, <i>Pass.</i> ... 3716	5001. characias, <i>Duby</i>
4995. alpina, <i>Rostr.</i> ... 7071	

†† *Sporidia 5 septata.*

5002. vulgaris, <i>Nsl.</i> ... 3720	5008. mucosa ( <i>Fckl. ?</i> ) ... 3726
5003. media, <i>Nsl.</i> ... 3721	5009. meliloti, <i>Rab.</i> ... 3727
5004. campanulæ, <i>Pass.</i> 3722	5010. goniolimonis, <i>Pass.</i> 3728
5005. oblongata, <i>Nsl.</i> ... 3723	5011. platyspora, <i>S.</i> ... 3729
5006. liniperda, <i>Thum.</i> ... 3724	5012. patella, <i>Fab.</i> ... 6159
5007. verecunda, <i>Curr.</i> ... 3725	5013. brunnea, <i>Cooke</i> ... 3427

††† *Sporidia 7 septata.*

5014. herbarum, <i>P.</i> ... 3730	5023. albicans, <i>Fckl.</i> ... 3736
5015. pisi, <i>Sow.</i> ... 3731	5024. chlamydospora, <i>Sacc.</i> ... 3737
5016. salsolæ, <i>Fckl.</i> ... 3732	
5017. arctica, <i>Fckl.</i> ... 7074	5025. dianthi, <i>Not.</i> ... 3738
5018. excavata, <i>Fr.</i> ... 3733	5026. vulgatissima, <i>Sp.</i> 3739
5019. tridactylitis, <i>Auers.</i> 3734	5027. denotata, <i>C. &amp; E.</i> 3740
5020. sedi, <i>Roum.</i> ... 7075	5028. lanceolata, <i>K. &amp; C.</i> 3741
5021. anastaticæ, <i>Bagn.</i> 3735	5029. Pricesiana, <i>Bagn.</i> 3742
5022. Briardiana, <i>Sacc.</i> 7076	5030. solani-nigri, <i>Roum.</i> 3155

†††† *Sporidia 8-12 septata.*

5031. dura, <i>Niessl.</i> ... 3743	5035. amplispora, <i>Ell. &amp; Ev.</i> ... 7077
5032. rubicunda, <i>Nsl.</i> ... 3744	
5033. antinoriana, <i>Bagn.</i> 3745	5036. verbasci, <i>Rabh.</i> ... 7078
5034. anthyllidis, <i>Auers.</i> 3746	5037. gigaspora, <i>Karst.</i> 7079

*Spor. septorum ignotus.*

5038. lusitanica, <i>Pass.</i> ... 3747	5041. plicata, <i>Preuss.</i> ... 3750
5039. herniaris, <i>Fckl.</i> ... 3748	5042. mendax, <i>Not.</i> ... 6158
5040. australis, <i>Cke.</i> ... 3749	5043. capparidis, <i>Speg.</i>



B. *Folii-fructicolæ.*

- |                                    |      |                                       |      |
|------------------------------------|------|---------------------------------------|------|
| 5044. drabæ, <i>Schrot.</i> ...    | 3751 | 5057. oxyacanthæ, <i>Pass.</i>        | 3774 |
| 5045. pyrenaica, <i>Nsl.</i> ...   | 3752 | 5058. socia, <i>Sacc. &amp; Pass.</i> | 3775 |
| 5046. gei-reptantis,               |      | 5059. aucubæ, <i>West</i> ...         | 3776 |
| <i>Carest.</i> ...                 | 3753 | 5060. celtidis, <i>Cast.</i> ...      | 3777 |
| 5047. leguminum, <i>Wallr.</i>     | 3754 | 5061. varians, <i>Ces.</i> ...        | 3778 |
| 5048. Clarkeana, <i>Ell. &amp;</i> |      | 5062. erythrinæ, <i>Ces.</i> ...      | 3779 |
| <i>Ev.</i> ...                     | 7080 | 5063. loculata, <i>Crie.</i> ...      | 3780 |
| 5049. paronychiæ, <i>Cooke</i>     | 7081 | 5064. globularioides, <i>Cr.</i>      | 3781 |
| 5050. cerastii, <i>Oud.</i> ...    | 7082 | 5065. papillata, <i>K.</i> ...        | 3782 |
| 5051. guaranítica, <i>Speg.</i>    | 7083 | = <i>petiolorum</i> , <i>Fckl.</i>    |      |
| 5052. abbreviata, <i>Fckl.</i>     | 7084 | 5066. gymnocladi, <i>Bagn.</i>        | 3783 |
| 5053. syringæ, <i>Fckl.</i> ...    | 3770 | 5067. hesperidearum,                  |      |
| 5054. euonymi, <i>Fckl.</i> ...    | 3771 | <i>Catt.</i> ...                      | 3784 |
| 5055. frangulæ, <i>Fckl.</i> ...   | 3772 | 5068. brachyasca, <i>Pass.</i>        | 7085 |
| 5056. grossulariæ, <i>Fries.</i>   | 3773 | 5069. Prostii, <i>P. &amp; R.</i> ... | 7086 |

C. In *Monocotyledoneis.*† *Sporidia 3 septata.*

- |                                     |      |                                       |      |
|-------------------------------------|------|---------------------------------------|------|
| 5070. leptosphærioides,             |      | 5076. macrospora, <i>Schw.</i>        | 3792 |
| <i>S. &amp; Ther.</i> ...           | 3786 | 5077. sarcocystis, <i>B. &amp; C.</i> | 3793 |
| 5071. Thuemeniana, <i>S.</i>        | 3787 | 5078. typhæ, <i>Pass.</i> ...         | 7500 |
| 5072. chamærops, <i>D. R. &amp;</i> |      | 5079. typhicola, <i>Oke.</i> ...      | 3794 |
| <i>M.</i> ...                       | 3788 | 5080. quadrisepata, <i>C. &amp;</i>   |      |
| 5073. culmorum, <i>Cke.</i> ...     | 3789 | <i>H.</i> ...                         | 7087 |
| 5074. scirrholdes, <i>S.</i> ...    | 3790 | 5081. calida, <i>P. &amp; S.</i> ...  | 7089 |
| 5075. andropogonis, <i>Nsl.</i>     | 3791 |                                       |      |

†† *Spor. 5 septata.*

- |                                    |      |   |      |
|------------------------------------|------|---|------|
| 5082. socialis, <i>Nsl.</i> ...    | 3795 | 5090. deflectens, <i>K.</i> ...         | 3802 |
| 5083. cepæ, <i>Pr.</i> ...         | 3796 | 5091. hydrophila, <i>Karst.</i>         | 7501 |
| 5084. microspora, <i>Nsl.</i> ...  | 3797 | 5092. pyrenophoroides, <i>S.</i>        | 3803 |
| 5085. infectoria, <i>Fckl.</i> ... | 3798 | 5093. vagans, <i>Nsl.</i> ...           | 3804 |
| 5086. spargani, <i>Cke.</i>        |      | 5094. Harknessi, <i>B. &amp; V.</i>     | 7090 |
| 5087. scirpicola, <i>D. C.</i> ... | 3799 | = <i>straminis</i> , <i>C. &amp; H.</i> |      |
| 5088. pentamera, <i>K.</i> ...     | 3800 | 5095. planispora, <i>Ell.</i> ...       | 7091 |
| 5089. donacina, <i>Fr.</i> ...     | 3801 | 5096. junciginea, <i>Cke.</i>           |      |

††† *Spor. 7 septata.*

- |                                      |      |                                    |      |
|--------------------------------------|------|------------------------------------|------|
| 5097. asparagi, <i>Rabh.</i> ...     | 3805 | 5106. Karsteni, <i>B. &amp; V.</i> | 3814 |
| 5098. allii, <i>Rabh.</i> ...        | 3806 | = <i>arctica</i> , <i>Karst.</i>   |      |
| 5099. asphodelii, <i>Rabh.</i>       | 3807 | 5107. septemseptata,               |      |
| 5100. rebissia, <i>Not.</i> ...      | 3808 | <i>Auers.</i> ...                  | 3815 |
| 5101. agaves, <i>Not.</i> ...        | 3809 | 5108. punctiformis, <i>Nsl.</i>    | 3816 |
| 5102. phragmospora,                  |      | 5109. heleocharidis, <i>K.</i> ... | 3817 |
| <i>D. R. &amp; M.</i> ...            | 3810 | 5110. subriparia, <i>Cke.</i> ...  | 3818 |
| 5103. principis, <i>Pass.</i> ...    | 3811 | 5111. spinosella, <i>Rehm.</i>     | 3819 |
| 5104. discors, <i>M.</i> ...         | 3812 | 5112. ovoidea, <i>Nsl.</i> ...     | 7092 |
| 5105. abscondita, <i>S. &amp; R.</i> | 3813 | 5113. arctagrostidis, <i>Oud.</i>  | 7093 |

++++ *Spor. 8 pluriseptata.*

- |                                      |  |
|--------------------------------------|--|
| 5114. gigantea, <i>M.</i> ... 3820   | 5118. straminis, <i>S.</i> ... 3824      |
| 5115. bambusæ, <i>Pass.</i> ... 3821 | 5119. elynæ, <i>Rabh.</i> ... 3825       |
| 5116. junci, <i>Pass.</i> ... 3822   | 5120. pezizoides, <i>Ces.</i> ... 7088   |
| 5117. heterospora, <i>Not.</i> 3823  | 5121. islandica, <i>Johan.</i> .... 7094 |

*Septorum ignotæ.*

- |                                       |                                       |
|---------------------------------------|---------------------------------------|
| 5122. zelandica, <i>Cke.</i> ... 3826 | 5123. cladiicola, <i>Cr.</i> ... 3827 |
|---------------------------------------|---------------------------------------|

D. In *Acotyledoneis.*

- |   |  |
|---|--|
| 5124. solorinæ, <i>M.</i> ... 3828      | 5127. muscicola, <i>C. &amp; M., Grev.</i> |
| 5125. pteridis, <i>Rabh.</i> ... 3829   | <i>xvii.</i> , 76                          |
| 5126. engeliana, <i>Saut.</i> .... 7095 |  |

E. In *Charta*, etc.

- |   |                                      |
|---|--------------------------------------|
| 5128. chartarum, <i>Fckl.</i> .... 3830 | 5130. malacospora, <i>Speg.</i> 3832 |
| 5129. Zimmermani, <i>Roum.</i> 3831     |                                      |

## \*\* CATHARINIA. Sporidiis hyalinis.

- |  |  |
|--|--|
| 5131. hyalospora, <i>Speg.</i> 3833        | 5134. vitrispora, <i>C. &amp; Hk.</i> 3836 |
| 5132. pachyasca, <i>Auers.</i> 3834        | 5135. peltigeræ, <i>Fckl.</i> ... 3837     |
| 5133. pallida, <i>S. &amp; S.</i> ... 3835 |  |

## \*\* SCLEROPLEA. Peritheciis sclerotioideis, sporidiis coloratis.

- |                                  |  |
|----------------------------------|--|
| 5136. nuda, <i>Cke.</i> ... 3839 | 5137. sclerotioides, <i>Speg.</i> 3840 |
|----------------------------------|--|

## \*\*\* JULELLA. Asci bispori.

- 5137 bis. Kellermanni, *Ellis.*

GEN. 10. **PYRENOPHORA**, *Fr.* Perithecia setulosa, sporidia muriformia.

## A. EUPYRENOPHORA. Peritheciis sclerotioideis.

- |   |  |
|---|--|
| 5138. relicina, <i>Fckl.</i> ... 3841   | 5140. phæocomes, <i>Reb.</i> .... 3843 |
| 5139. trichostoma, <i>Fr.</i> .... 3842 |  |

*Dubia.*

5141. inclusa, *Lasch.* ... 3844

## B. CHÆTOPLEA. Peritheciis coriaceo-membranaceis.

- |  |   |
|--|---|
| 5142. calvenscens, <i>Fr.</i> ... 3845 | 5148. phæocomoides,                     |
| 5143. pellita, <i>Fr.</i> ... 3846     | <i>Sacc.</i> ... 3848                   |
| 5144. depressa, <i>Peck.</i> ... 7098  | = <i>phæocomes</i> , <i>B. &amp; B.</i> |
| 5145. abscondita, <i>Karst.</i> 7099   | 5149. gracialis, <i>Nsl.</i> ... 7100   |
| 5146. armeriæ, <i>Corda Ic.</i>        | 5150. setigera, <i>Nsl.</i> ... 3849    |
| 5147. venturia, <i>Sp.</i> ... 3847    | 5151. phæospora, <i>Dby.</i> .... 3850  |

5152. <i>Venziana</i> , <i>Sacc.</i> ...	3851	5165. <i>chrysospora</i> , <i>Nsl.</i>	3861
5153. <i>penicillus</i> , <i>Schw.</i> ...	3852	5166. <i>rosæ</i> , <i>D. Not.</i> ...	3862
5154. <i>pancitricha</i> , <i>Fckl.</i>	7101	5167. <i>Notarisii</i> , <i>Sacc.</i> ...	3863
5155. <i>nivalis</i> , <i>Nsl.</i> ...	3853	5168. <i>fenestrata</i> , <i>Peck.</i> ...	7103
5156. <i>helvetica</i> , <i>Nsl.</i> ...	3854	5169. <i>comata</i> , <i>Nsl.</i> ...	3864
5157. <i>trichostomella</i> , <i>S.</i>	3855	5170. <i>Wichuriana</i> , <i>Schr.</i>	3865
5158. <i>coronata</i> , <i>Nsl.</i> ...	3856	5171. <i>polyphragmia</i> , <i>S.</i>	3866
5159. <i>minuta</i> , <i>Roum.</i> ...	3040	5172. <i>apapaphysata</i> , <i>Ther.</i>	7104
5160. <i>hispida</i> , <i>Nsl.</i> ...	3857	5173. <i>lanuginosa</i> , <i>S.</i> ...	3867
5161. <i>oligotricha</i> , <i>Nsl.</i> ...	7102	5174. <i>hispidula</i> , <i>Nsl.</i> ...	3868
5162. <i>tragacanthæ</i> , <i>Rab.</i>	3858	5175. <i>parvula</i> , <i>Speg.</i> ...	3869
5163. <i>androsaces</i> , <i>Fckl.</i>	3859	5176. <i>sphagnæceticola</i> ,	
5164. <i>ciliata</i> , <i>Ellis</i> ...	3860	<i>Cr.</i> ...	3870

C. CAPRONIA, *Sacc.* Asci 16 spori.

5177. *sexdecemspora*, *Cke.* 3872

Fam. 16. FOLIICOLÆ. Fr. S. M. ii., 513. *Perithecia innata*, *tecta*, *plerumque foliicola*.

GEN. 1. **LÆSTADIA.** Sporidia continua, hyalina.

\* GENUINA. *Asci apapaphysati.*

5178. <i>punctoidea</i> , <i>Cke.</i>	1592	5201. <i>auripunctum</i> ,	
5179. <i>stigmatodes</i> , <i>B. &amp; C.</i>	5999	<i>Hark.</i> ...	6370
5180. <i>alnea</i> , <i>Fr.</i> ...	1593	5202. <i>system-solare</i> , <i>Fckl.</i>	1606
5181. <i>rosæ</i> , <i>Awd.</i> ...	1594	5203. <i>polystigma</i> , <i>Ell. &amp; Ev.</i>	6371
5182. <i>Malbrancheana</i> , <i>Sacc.</i>	6364	5204. <i>faginea</i> , <i>Cke. &amp; Pl.</i>	6001
5183. <i>cerris</i> , <i>Pass.</i> ...	1595	5205. <i>excentrica</i> , <i>Crie.</i> ...	1607
5184. <i>Cookeana</i> , <i>Awd.</i> ...	1596	5206. <i>buxi</i> , <i>Fckl.</i> ...	6003
5185. <i>radiata</i> , <i>Wallr.</i> ...	1597	5207. <i>buxifolia</i> , <i>Cke.</i> ...	6002
5186. <i>potentillæ</i> , <i>Rostr.</i>	6365	5208. <i>perpusilla</i> , <i>Desm.</i>	1608
5187. <i>Niesslii</i> , <i>Kunze.</i> ...	1598	5209. <i>microspora</i> , <i>Awd.</i>	1609
5188. <i>guarapiensis</i> , <i>Speg.</i>	6366	5210. <i>canificans</i> , <i>Fckl.</i> ...	1610
5189. <i>socia</i> , <i>Penz.</i> ...	1599	5211. <i>rhytismoides</i> ,	
5190. <i>veneta</i> , <i>S. &amp; Sp.</i> ...	1600	<i>Berk.</i> ...	1611
5191. <i>pseudoplatani</i> , <i>Pass.</i>	7442	5212. <i>microscopica</i> , <i>Nsl.</i>	6373
5192. <i>albobocrustata</i> , <i>Schw.</i>	6000	5213. <i>attenuata</i> , <i>Crie.</i> ...	1612
5193. <i>cylindrascia</i> , <i>S. &amp; Sp.</i>	1601	5214. <i>zaviana</i> , <i>S. &amp; B.</i> ...	6374
5194. <i>celata</i> , <i>Hark.</i> ...	6367	5215. <i>angulata</i> , <i>Fckl.</i> ...	1613
5195. <i>contecta</i> , <i>Desm.</i> ...	1602	5216. <i>echinophila</i> , <i>Schw.</i>	1614
5196. <i>orontii</i> , <i>Ell. &amp; Ev.</i>	6368	5217. <i>depressa</i> , <i>Peck.</i> ...	6375
5197. <i>areola</i> , <i>Fckl.</i> ...	1603	5218. <i>cephalaris</i> , <i>Awd.</i> ...	1615
5198. <i>fusispora</i> , <i>S. &amp; B.</i>	6369	5219. <i>lusitanica</i> , <i>Awd.</i> ...	1616
5199. <i>acerifera</i> , <i>Cke.</i> ...	1604	5220. <i>caryophyllea</i> , <i>C. &amp; Hk.</i>	6375
5200. <i>sylvicola</i> , <i>S. &amp; Roum.</i>	1605	5221. <i>Marii</i> , <i>De Not.</i> ...	1617
		5222. <i>minutissima</i> , <i>Awd.</i>	1618
		5223. <i>carpinea</i> , <i>Fr.</i> ...	1619

5224. *camilleæ*, *Cooke* ... 6376  
 5225. *comedens*, *Schwz.* 2104  
 5226. *millipunctata*,  
     *Desm.* ... 1620  
 5227. *cinerascens*, *Schwz.* 6005  
 5228. *pinastri*, *DC.* ... 1621  
 5229. *cooperta*, *Desm.* ... 1622  
 5230. *magnoliæ*, *Ellis* ... 6004  
 5231. *jasminicola*, *Desm.* 1623  
 5232. *bupleuri*, *D. R. & M.* 1624  
 5233. *tuscula*, *Pass.* ... 6006  
 5234. *fraxinicola*, *C. &*  
     *Pk.* ... 1626  
 5235. *melaleucæ*, *Berk.*... 6007  
 5236. *minuscula*, *Lev.*... 1627  
 5237. *guaranitica*, *Speg.* 6377  
 5238. *mappa*, *Berk.* ... 1628  
 5239. *nebulosa*, *De Not.*... 1629

*Species dubiæ.*

5256. *brunnea*, *B. & C.*... 1636  
 5257. *glaucescens*, *Cke.* 1637  
 5258. *epilobiana*, *Sacc.*... 1638  
 5259. *mali*, *Fckl.* ... 1639  
 5260. *comedens*, *Pass.* ... 1640  
 5261. *perusta*, *B. & Br.*... 1641  
 5262. *caricicola*, *Fckl.* ... 1642  
 5263. *cicutæ*, *Kirch.* ... 1643

## \*\* PHYSALOSPORA.

5271. *Wrightii*, *B. & C.*... 1661  
 5272. *alpina*, *Speg.*, 1664 6385  
 5273. *megastoma*, *Peck.* 1669  
 5274. *fallaciosa*, *Sacc.* ... 1670  
 5275. *citricola*, *Penz.* ... 1671  
 5276. *disseminata*, *Sacc.* 1673  
 5277. *claræ-bonæ*, *Speg.* 1674  
 5278. *hyalospora*, *Ces.*... 1676  
 5279. *lathyri*, *D. R. & M.* 1681  
 5280. *phomatoides*, *Mont.* 1683  
 5281. *protuberans*, *Fckl.* 1684  
 5282. *fusispora*, *S. & R.* 6386  
 5283. *philoprina*, *B. & C.* 1685  
 5284. *consociata*, *Ell. & H.* 1688  
 5285. *palustris*, *Mont.* ... 1697

In *Monocotyledoneis*.

5299. *bambusæ*, *Rab.* ... 1719  
 5300. *alpestris*, *Nsl.* ... 1656  
 5301. *festucæ*, *Lib.* ... 1657  
 5302. *montana*, *S.* ... 1658  
 5240. *fæniculacea*, *Mont.* 1711  
 5241. *foeda*, *Lev.* ... 1630  
 5242. *therophila*, *Desm.* 1652  
 5243. *rhododendri*,  
     *De Not.* ... 1632  
 5244. *rhodoræ*, *Cke.* ... 6378  
 5245. *hæmatodes*, *B. & C.* 6427  
 5246. *Rouxii*, *Mont.* ... 1633  
 5247. *leucothoës*, *Cke.* ... 6009  
 5248. *maculiformis*, *Bon.* 1634  
 5249. *destructiva*, *B. & Br.* 6379  
 5250. *oxalidis*, *Rabh.* ... 1635  
 5251. *polygonati*, *Schwz.* 6010  
 5252. *asarifolia*, *Cke.* ... 6012  
 5253. *paronychiæ*, *Cke.* 6013  
 5254. *juniperina*, *Ellis*... 6008  
 5255. *polypodii*, *S. & M.* 6380

*Asci paraphysati.*

5286. *melaleucæ*, *Lev.* ... 1698  
 5287. *cassiae*, *Lev.* ... 1707  
 5288. *sporadina*, *Lev.* ... 1708  
 5289. *arthuriana*, *Sacc.* 6017  
 5290. *ecastophylli*, *Lev.* 1715  
 5291. *nitens*, *Lev.* ... 1716  
 5292. *cocodes*, *Lev.* ... 1717  
 5293. *labecula*, *Lev.* ... 1723  
 5294. *miconiæ*, *Duby.* ... 1724  
 5295. *inanis*, *Schwz.* ... 1725  
 5296. *bina*, *Hark.* ... 6388  
 5297. *quercifolia*, *Ell.*  
     *& Ev.* ... 6389  
 5298. *ilicis*, *Schl.* ... 6390

GEN. 2. **SPHERELLA.** Sporidia uniseptata, hyalina.A. In *Dicotyledoneis*.† *Arboricolæ*.\* *Foliicolæ*.

5307. punctiformis, <i>Pers.</i> 1819	5346. bellona, <i>Sacc.</i> ... 1843
5308. maculiformis, <i>Pers.</i> 1820	5347. pomacearum, <i>Crie.</i> 1844
5309. nigrita, <i>Oke.</i> ... 1821	5348. sentina, <i>Fr.</i> ... 1845
5310. aquatica, <i>Cke.</i> ... 6028	5349. pyri, <i>Awd.</i> ... 1846
5311. oblivia, <i>Cke.</i> ... 1822	5350. septorioides, <i>Desm.</i> 1847
5312. familiaris, <i>Awd.</i> ... 1823	5351. latebrosa, <i>Cke.</i> ... 1848
5313. spleniata, <i>C. &amp; Pk.</i> 1824	5352. pardalota, <i>C. &amp; E.</i> 1849
5314. succinea, ( <i>Rob. ?</i> ) 6172	5353. parvimacula, <i>Pass.</i> 1850
5315. catesbeyi, <i>Cke.</i> ... 1825	5354. fagi, <i>Awd.</i> ... 1851
5316. simulans, <i>Cke.</i> ... 1826	5355. cratægi, <i>Fckl.</i> ... 1852
5317. Ravenelii, <i>Cke.</i> ... 1827	5356. ligea, <i>Sacc.</i> ... 1853
5318. phellos, <i>Schwz.</i> ... 6029	5357. Winteri, <i>Pass.</i> ... 1854
5319. evansiæ, <i>Pat.</i> ... 6413	5358. chamæmori, <i>Karst.</i> 1855
5320. ailanthi, <i>Cke.</i> ... 1828	5359. circumdans, <i>Pass.</i> 1856
5321. æthiops, <i>Fckl.</i> ... 1829	5360. platanifolia, <i>Cke.</i> 6033
5322. harthensis, <i>Awd.</i> ... 1830	5361. gibelliana, <i>Pass.</i> ... 1857
5323. lantanæ, <i>Nits.</i> ... 1831	5362. hesperidum, <i>Penz.</i> 6419
5324. viburni, <i>Nits.</i> ... 1832	5363. sícula, <i>Penz.</i> ... 1858
5325. crepidophora, <i>Mont.</i> ... 1833	5364. arcana, <i>Cke.</i> ... 1859
= <i>Tini.</i> , <i>Arc.</i> ... 1834	5365. millegrana, <i>Cke.</i> ... 1860
5326. topographica, <i>S. &amp; S.</i> ... 1835	5366. incanescens, <i>Schwz.</i> 6034
5327. podocarp, <i>Cke.</i> ... 6030	5367. fennica, <i>Karst.</i> ... 1861
5328. taxi, <i>Cooke</i> ... 1836	5368. sparsa, <i>Wallr.</i> ... 1862
5329. taxodii, <i>Cke.</i> ... 6031	5369. grossulariæ, <i>Fr.</i> ... 1863
5330. acicola, <i>C. &amp; H.</i> ... 6414	5370. assimilata, <i>Kunze.</i> 1864
5331. pinsapo, <i>Thum.</i> ... 1837	5371. ribis, <i>Fckl.</i> ... 1865
5332. ligustri, <i>Desm.</i> ... 1838	5372. curva, <i>Karst.</i> ... 6420
5333. sassafras, <i>Ell. &amp; Ev.</i> ... 6416	5373. genuflexa, <i>Awd.</i> ... 1866
5334. laburni, <i>Pass.</i> ... 1839	5374. polaris, <i>Karst.</i> ... 1867
5335. ilicella, <i>Cke.</i> ... 1840	5375. mygindæ, <i>Wint.</i> ... 6421
5336. prini, <i>Cke.</i> ... 6032	5376. Capronii, <i>Sacc.</i> ... 1868
5337. ilicis, <i>Ellis</i> ... 6050	5377. salicicola, <i>Fr.</i> ... 1869
5338. nyssæcola, <i>Cke.</i> ... 2078	5378. curvulata, <i>Pass.</i> ... 1870
5339. sapindi, <i>Ell. &amp; Ev.</i> 7449	5379. maculosa, <i>Sacc.</i> ... 1871
5340. exarida, <i>Wint.</i> ... 6417	5380. populi, <i>Awd.</i> ... 1872
5341. conferta, <i>Speg.</i> ... 6418	5381. populifolia, <i>Cke.</i> ... 6035
5342. melanococca, <i>Lev.</i> 7448	5382. macularis, <i>Fries.</i> 1873
5343. Galouillardii, <i>Sacc.</i> 7450	5383. crassa, <i>Awd.</i> ... 1874
5344. hedericola, <i>Desm.</i> 1841	5384. orbicularis, <i>Peck.</i> 1875
5345. pomi, <i>Pass.</i> ... 1842	5385. major, <i>Awd.</i> ... 1876
	5386. chauria, <i>Cke.</i> ... 1877
	5387. erysiphoides, <i>Sacc.</i> 6036
	5388. wisteriæ, <i>Cke.</i> ... 1878

5389. <i>verna</i> , S. & S. ... 1879	5423. <i>platytheca</i> , Karst. 6464
5390. <i>clematidis</i> , Oud. ... 7451	5424. <i>cinerascens</i> , Fckl. 1898
5391. <i>vagabunda</i> , Desm. 1880	5425. <i>cerasina</i> , Cke. ... 1899
5392. <i>pittospori</i> , Cke. ... 1881	5426. <i>lenticula</i> , Cke. ... 6044
5393. <i>rubiginosa</i> , Cke. ... 6422	5427. <i>ceratonis</i> , Pass. ... 1900
5394. <i>pseudacaciæ</i> , Awd. 1882	5428. <i>arbuticola</i> , Peck. ... 6428
5395. <i>sophoræ</i> , Wint. ... 6423	5429. <i>vaccinii</i> , Cke. ... 1901
5396. <i>fraxinea</i> , Peck. ... 6412	5430. <i>gallæ</i> , Ell. & Ev. ... 6430
5397. <i>fraxinicola</i> , Schwz. 6037	5431. <i>myrtillina</i> , Pass. 1902
5398. <i>effigurata</i> , Schwz. 6038	5432. <i>brachytheca</i> , Cke. 1903
5399. <i>petiolicola</i> , Desm. 1883	5433. <i>bumeliæ</i> , Cke. ... 1904
5400. <i>oleina</i> , Cke. ... 6039	5434. <i>convexula</i> , Schwz. 1905
5401. <i>chionanthi</i> , B & Br. 2148, 6040	5435. <i>dendroides</i> , Schwz. 6045
5402. <i>syconophila</i> , Wint. 7447	5436. <i>euonymi</i> , Kurze. ... 1907
5403. <i>psammisiæ</i> , Cke. ... 1884	5437. <i>exutans</i> , Cke. ... 1906
5404. <i>morifolia</i> , Pass. ... 6424	5438. <i>elatior</i> , S. & Sp. ... 1908
5405. <i>œdema</i> , Fr. ... 1885	5439. <i>liriodendri</i> , Cke. ... 6046
5406. <i>ulmifolia</i> , Pass. ... 6041	5440. <i>Duchartrei</i> , Crie. 1909
5407. <i>myrsines</i> , Kalch & Cke. ... 1887	5441. <i>cynanthi</i> , Pat. ... 7452
5408. <i>myricariæ</i> , Fckl. ... 1888	5442. <i>coneglanensis</i> , Speg. ... 1910
5409. <i>Molleriana</i> , Thum. 1889	5443. <i>berberidis</i> , Awd. ... 1911
5410. <i>umbellularia</i> , C. & H. ... 6425	5444. <i>Anerswaldii</i> , Fleisch. ... 1912
5411. <i>mediterranea</i> , Sacc. 1890	5445. <i>cornifolia</i> , Schwz. 6047
5412. <i>tahitensis</i> , Sacc. ... 6426	5446. <i>conglomerata</i> , Wallr. ... 1913
5413. <i>laureolæ</i> , Desm. ... 1891	5447. <i>cercidis</i> , Pass. ... 6431
5414. <i>grumiformis</i> , Karst. 1892	5448. <i>alni</i> , Fckl. ... 1914
5415. <i>rhododendri</i> , Cke. 6042	5449. <i>alni-viridis</i> , Not. 1915
5416. <i>gaultheriæ</i> , C. & P. 1893	5450. <i>araliæ</i> , C. & H. ... 1916
5417. <i>dendromecomis</i> , C. & H. K. ... 1894	5451. <i>acaciæ</i> , C. & H. ... 1917
5418. <i>clymenia</i> , Sacc. ... 1895	5452. <i>drymidis</i> , Berk. ... 6048
5419. <i>collina</i> , S. & Sp. ... 1896	5453. <i>annulata</i> , Cke. ... 1918
5420. <i>colorata</i> , Peck. ... 1897	5454. <i>glauca</i> , Cke. ... 1919
5421. <i>gardeniæ</i> , Cke. ... 6043	5455. <i>cleidii</i> , B. & Br. ... 1920
5422. <i>corylina</i> , Karst. ... 6429	5456. <i>nigredo</i> , Schwz. ... 6049
	5457. <i>pistaciæ</i> , Cke. ... 6051

## INDEX LICHENUM BRITANNICORUM.

BY THE REV. J. M. CROMBIE, F.L.S.

## PART II. (Continued.)

e Stirps, *L. subfusca*.Sp. 78 *L. galactina*, Ach.f. 1, *deminuta* (Stenh.), Cromb.2, *verrucosa*, Leight.\* *L. dissipata*, Nyl.

- \* *L. dispersa* (*Pers.*), *Nyl.*
- 79 *L. urbana*, *Nyl.*
- 80 *L. livida*, *Ach.*
- 81 *L. subluta*, *Nyl.*
  - f. perspersa*, *Nyl.*
- 82 *L. aipospila* (*Whltnb.*), *Ach.*
  - β. maritima* (*Sumrf.*), *Nyl.*
- 83 *L. poliophæa* (*Whltnb.*), *Ach.*
  - f. spodophæa* (*Whltnb.*), *Nyl.*
- 84 *L. subfusca* (*Ach.*), *Nyl.*
  - β. campestris* (*Schær.*), *Nyl.*
- 85 *L. allophana*, *Ach.*
- 86 *L. epibrya*, *Ach.*
- 87 *L. Parisiensis*, *Nyl.*
- 88 *L. rugosa* (*Pers.*), *Nyl.*
- 89 *L. chlarona* (*Ach.*), *Nyl.*
  - f. pinastri* (*Schær.*)
  - f. gangalea* (*Ach.*), *Nyl.*
  - β. geographica* (*Mass.*), *Nyl.*
- 90 *L. chlarotera*, *Nyl.*
- 91 *L. coilocarpa*, *Ach.*
  - f. pulicaris*, *Ach.*
- 92 *L. atrynea* (*Ach.*), *Nyl.*
  - β. cenisea* (*Ach.*), *Nyl.*
  - γ. melacarpa*, *Nyl.*
- 93 *L. gangeleoides*, *Nyl.*
- \* *L. schistina*, *Nyl.*
- 94 *L. intumescens* (*Rebent.*), *Koerb.*
- 95 *L. albella* (*Pers.*), *Ach.*
  - f. 1, peralbella*, *Nyl.*
  - f. 2, subalbella*, *Nyl.*
  - β. chondrotypa* (*Ach.*), *Stiz.*
- 96 *L. angulosa*, *Ach.*
- 97 *L. præpostera*, *Nyl.*
- 98 *L. glaucoma*, *Ach.*
  - f. 1, decussata*, *Cromb.*
  - 2, complanata*, *Leight.*
  - β. inflexa*, *Johns.*
  - γ. Swartzii* (*Ach.*), *Nyl.*
- 99 *L. subcarnea*, *Ach.*
  - β. lecideina* (*Schær.*), *Nyl.*
- 100 *L. umbrina* (*Ach.*), *Nyl.*
  - f. subdistans*, *Nyl.*
  - γ. crenulata* (*Dcks.*), *Nyl.*
- 101 *L. prosechoides*, *Nyl.*
- 102 *L. prosechoidiza*, *Nyl.*
- 103 *L. Hageni* (*Ach.*), *Nyl.*
  - f. calcigena*, *Nyl.*

- 104 *L. conferta* (*Dub.*), *Nyl.*
- 105 *L. Aghardiana*, *Ach.*
- 106 *L. fuscescens* (*Smmrf.*), *Nyl.*
- 107? *L. mammillifera*, *Stirt.*
- 108 *L. sulfurea* (*Hffm.*), *Ach.*
- 109 *L. epanora*, *Ach.*
- 110 *L. orosthea*, *Ach.*
  - β. sublivescens*, *Nyl.*
- 111 *L. varia* (*Ehrh.*), *Ach.*
  - f. pleorytis*, *Ach.*
- 112 *L. conizæa* (*Ach.*), *Nyl.*
- 113 *L. conizæoides*, *Nyl.*
- 114 *L. expallens*, *Ach.*
  - β. smaragdocarpa*, *Nyl.*
  - γ. lutescens* (*D. C.*), *Nyl.*
- \* *L. inversa*, *Nyl.*
- 115 *L. symmicta* (*Ach.*), *Nyl.*
  - β. sepincola* (*Ach.*), *Nyl.*
- 116 *L. symmictera*, *Nyl.*
  - β. aitema*, *Ach.*
  - f. depauperata*, *Cromb.*
- 117 *L. piniperda*, *Krb.*
  - β. ochrostoma*, *Krb.*
- 118 *L. metaboloides*, *Nyl.*
  - f. obscurior*, *Cromb.*
- 119 *L. polytropa*, *Ehrh.*
  - f. efflorescens*, *Cromb.*
  - f. alpigena*, *Ach.*
  - f. conglobata*, *Fr.*
- \* *L. intricata*, *Schrad.*
  - β. leptacina*, *Smmrf.*
- 120 *L. stenotropa*, *Nyl.*
- 121 *L. subintricata*, *Nyl.*
- 122 *L. sarcopis*, *Whlnb.*
- 123 *L. effusa*, *Pers.*
- 124 *L. argopholis* (*Whlnb.*), *Ach.*
- 125 *L. frustulosa* (*Dcks.*), *Ach.*
- 126 *L. chlorophæodes*, *Nyl.*
  - f. Stürps*, *L. erysibes*, *Ach.*
- 127 *L. erysibe* (*Ach.*), *Nyl.*
  - f. cinereo fusca*, *Mudd.*
  - β. sincerior*, *Nyl.*
- \* *L. albariella*, *Nyl.*
  - β. lactea*, *Mass.*
- 128 *L. phæoleucodes*, *Nyl.*
- 129 *L. Hutchinsia*, *Nyl.*
  - β. accessitans*, *Nyl.*



- γ. congregabilis*, *Nyl.*
- 130 *L. umbraticula*, *Nyl.*
- 131 *L. spodophaeiza*, *Nyl.*
- 132 *L. actæa*, *Nyl.*
- 133 *L. dimera*, *Nyl.*
- 134 *L. sambuci* (*Pers.*), *Nyl.*
- 135 *L. syringeæ*, *Ach.*
- \* *L. athroocarpa.*
- β. cærulescens*, *Mudd.*
- γ. metabolica*, *Ach.*
- 136 *L. rhypariza*, *Nyl.*
- f. curvescens* (*Mudd.*), *Nyl.*
- g* Stirps, *L. atræ*, *Ach.*
- 137 *L. atra* (*Huds.*), *Ach.*
- ? *β. subbyssoides*, *Stirt.*
- h* Stirps, *L. badiæ*, *Ach.*
- 138 *L. badia*, *Ach.*
- β. cinerascens*, *Nyl.*
- \* *L. picea* (*Dcks.*), *Nyl.*
- 139 *L. nitens* (*Flk.*), *Nyl.*
- 140 *L. austera*, *Nyl.*
- 141 *L. atriseda* *Fr.*
- 142 *L. torquata.*
- i* Stirps, *L. coccinei*, *Dcks.*
- 143 *L. coccinea*, *Dcks.*
- β. saxetana*, *Ach.*
- 144 *L. elatina*, *Ach.*
- k* Stirps, *L. ventosæ*, *Ach.*
- 145 *L. ventosa*, *Ach.*
- β. subfestiva*, *Nyl.*
- l* Stirps, *L. tartareæ.*
- 146 *L. tartarea* (*L.*), *Ach.*
- f. grandinosa* (*Ach.*), *Fr. fil.*
- β. frigida* (*Sw.*), *Ach.*
- f. microcarpa*, *Fr. fil.*
- γ. gonatodes*, *Ach.*
- \* *L. subtartarea*, *Nyl.*
- f. leprosa*, *Nyl.*
- 147 *L. pallescens* (*Ach.*), *Nyl.*
- 148 *L. parella* (*L.*), *Ach.*
- f. 1, crenularia*, *Cromb.*
- f. 2, tumidula* (*Pers.*), *Ach.*
- β. Turneri* (*Sm.*), *Nyl.*
- f. subcrenata*, *Cromb.*
- 149 *L. upsaliensis* (*L.*), *Nyl.*
- 150 *L. geminipara*, *Fr. fil.*

(To be continued.)

## CRYPTOGAMIC LITERATURE.

COOKE, M. C. British Edible Fungi, in "The World's Provider," Nos. 1 to 4.

TRAIL, W. H. Fungi collected in Hardanger, in "Trans. Bot. Soc. Edin.," 1889.

PECK, C. H. Boleti of the United States, in "Bulletin of New York State Museum," No. 8.

CRISP, F., and OTHERS. Summary of recent researches in Cryptogamic Botany, in "Journ. Roy. Micr. Soc.," Dec., 1889.

MACCHIATI, L. Sulla *Lyngbya Borziana*, in "Nuovo Giorn. Bot. Ital.," Jan., 1890.

PASSERINI, G. Sopra alcune *Phoma*, in "Nuovo Giorn. Bot. Ital.," Jan., 1890.

JATTA, A. Licheni Patagonici, in "Nuovo Giorn. Bot. Ital.," Jan., 1890.

BINSTEAD, C. H. Rare Mosses in Cumberland, in "The Naturalist," Jan., 1890.

PECK, C. H. Recent New York Fungi, in 42nd Report of New York State Museum.

PECK, C. H. New York species of *Clitopilus*, in 42nd Report of New York State Museum.

THAXTER, R. New American *Phytophthora*, in "Bot. Gazette," Nov., 1889.

KELSEY, F. D. Study of Montana Erysipheæ, in "Botanical Gazette," Nov., 1889.

PEARSON, W. H. New British Hepatic (*Lejeunia Rosettiana*, M.), in "Journ. Bot.," Dec., 1889.

HUSNOT, T. Muscologia gallica, No. 8.

BERLESE, N., and BRESADOLA, G. Micromycetes Tridentini (Reprint).

HELM, S. On *Micrasterias denticulata*, in "Journ. New York Microscopical Society," Oct., 1889.

ROY, JOHN. On *Sciadium arbuscula*, in "Scottish Naturalist," Jan., 1890.

CORBIERE, M. Les Fossombronia der Depart. de la Manche, in "Revue Bryologique," Jan., 1890.

PHILIBERT. Etudes sur le Peristome, in "Revue Bryologique," Jan., 1890.

NAWASCHIN, S. Atrichum fertile, n.s., in "Hedwigia," Nov., 1889.

KARSTEN, P. A. Fragmenta mycologica, xxviii., in "Hedwigia," Nov., 1889.

WARNSTORF, C. On *Sphragnum affine*, in "Hedwigia," Nov., 1889.

- WARNSTORF, C. On *Ulotia marchica*, in "Hedwigia," Nov., 1889.
- RENAULD, F. Mousses d'Ile Maurice, in "Revue Bryologique," Dec., 1889.
- AMANN, M. Espèces et variétés nouvelles, in "Revue Bryologique," Dec., 1889.
- TAVEL, F. von. History and Development of Pyrenomycetes, in "Journ. Mycol.," Sept., 1889.
- HALSTED, B. D. Another *Sphaerotheca* upon distortions, "Journ. Mycol.," Sept., 1889.
- MACADAM, R. K. N. A. Agarics (*Russula*), in "Journ. Mycol.," Sept., 1889.
- KELLERMAN and SWINGLE. Kansas Fungi, in "Journ. Mycol.," Sept., 1889.
- ELLIS, J. B., and EVERHART, B. M. North American Fungi, in "Journ. Mycol.," Sept., 1889.
- ROY, JOHN. Desmids of the Alford District, in "Scottish Naturalist," Jan., 1890.
- PHILLIPS, W. New Scotch Discomycetes, in "The Scottish Naturalist," Jan., 1890.
- LETT, W. H. The Cells of Mosses, in "Journal of Microscopy," Jan., 1890.
- COOKE, M. C. Illustrations of Fungi, Part lxxii.
- KELLERMAN, W. A. Preliminary Report on Smut in Oats, in "Bulletin Kansas Agri. Coll.," Oct., 1889.
- STARBACK, K. Ascomyceter från Oland och Östergötland (Extract).
- STARBACK, K. Några Skandinaviska Pyrenomyceter (Extract).
- BRESADOLA, G., and ROUMÈGUERE, C. Contributiones à la Flore Mycologique des Îles St. Thome et des Princes, in "Revue Mycologique," Jan., 1890.
- SWINGLE, W. T. List of Kansas species of *Peronospora*, in "Trans. Kansas Acad. Science," 1889.
- ROUMÈGUERE, C. Parasitisme du *Tremella Dulacciana* sur le *Clitocybe nebularis*, in "Revue Mycologique."
- SOROKINE, N. Matériaux pour la Flore Cryptogamique de l'Asie Centrale, in "Revue Mycologique."
- DE TONI, G. B. Algæ novæ, diagnoses in Notarisia, No. 16.
- MACMILLAN, HUGH. Lichens of Inverary, in "Trans. Crypt. Soc. of Scotland," 1889.
- STEVENSON, J., and TRAIL, W. H. Fungi of Inverary, in "Trans. Crypt. Soc. of Scotland," 1889.
- ROUMÈGUERE, C. Fungi Gallici, cent. 52.
- MASSEE, G. Monograph of British Gastromycetes, in "Annals of Botany," Nov., 1889.

# Grevillea,

A QUARTERLY RECORD OF CRYPTOGAMIC BOTANY  
AND ITS LITERATURE.

## NEW BRITISH FUNGI.

(Continued from p. 54.)

### **Agaricus (Flammula) purpuratus, Cooke & Mass.**

Pileus rather fleshy, convex, then expanded, obtusely umbonate (1-2 in. diam.), purple or purple-brown, clad with minute floccose scales of the same colour. Stem curved, ascending, equal (1-2 in. long, 2-3 lines thick), smooth and pallid above, purple below and granulose, solid, flesh pale-yellowish above, purplish below, ring fibrillose; gills adnate, somewhat rounded behind, not crowded, lemon-yellow, at length bright ferruginous ( $8 \times 5 \mu$ ). Taste very bitter.—*Cooke Illus. Supp. t. 964.*

On tree fern stems. Kew Gardens.

### **Cyphella cernua, Schum. Flor. Scalland. p. 421.**

Minute, scattered, whitish, pallid, cyathiform, nodding, margin quite entire, or more often lacinate, teeth unequal, and somewhat turned in. Stem rather short, thin, dilated at the apex, diaphanous, when old umber at the base.—*Fl. Dan. t. 1970, f. 3.*

On elder bark. Ayrshire. (*D. A. Boyd.*)

Fries evidently considers this a variety of *Cyphella capula*, Fr. Spores  $10 \times 8 \mu$ .

### **Peziza leucomelas, P. Grev. XVII., 44.**

This has occurred also at Norwood.

### **Phoma nepenthis, Cke. & Mass.**

Perithecia scattered, immersed, black, membranaceous, perforate. Sporules elliptical, binucleate, hyaline,  $7 \times 3\frac{1}{2} \mu$ ; on short sporophores.

On dead pitchers of *Nepenthes*. Readlands, Glasgow. (*D. A. Boyd.*)

### **Cytispora taxifoliae, Cke. & Mass.**

Stromatibus sparis, globoso-conicis, lævibus, nigris, erumpentibus, intus 3-4 loculatis, sphaeriæformibus, ostiolo conico, basidiis minutis; sporulis allantoideis, minutis, hyalinis,  $3 \times 1 \mu$ .

In foliis *Taxi*. Near Carlisle.

**Hendersonia haplocoystis**, Cooke.

Perithecia scattered, immersed, scarcely visible except by cutting away the wood. Spores large,  $45-50 \times 18 \mu$ , four-celled, the two median cells large, subglobose, flattened at the junction, dark brown, nearly black, ultimate cells small, hyaline, almost like an apiculus at each end.

On decorticated twigs of ash, etc. Near Bristol.

**Heterosporium algarum**, Cke. & Mass.

Fully matured specimens prove that the conidia of *Cladosporium algarum*, C. & M., "Grevillea," xvi., 81, are echinulate, and hence *Heterosporium*.

On *Laminaria*. West Kilbride, N.B.

**Glæosporium cinctum**, B. & C. Sacc. Syll. 3765.

On leaves of orchids in conservatory. Glasgow. (*D. A. Boyd.*)

Apparently *Glæosporium affine*, Sacc. Syll. 3707, is the same species.

**Glæosporium elasticum**, Cke. & Mass.

Pustules minute, scattered, turning black, chiefly on the upper surface; conidia oozing out when moist, elliptical, or elongated elliptical, rounded at the ends, hyaline, granular, sometimes nucleate,  $12-20 \times 5 \mu$ .

On dead leaves of *Ficus elastica*. Botanic Garden, Glasgow. (*D. A. Boyd.*)

**Volutella citrina**, Cke. & Mass.

Erumpent, scattered, discoid, lemon-yellow ( $\frac{1}{3}$  mm. diam.), sessile, resembling a minute *Peziza*, circumscribed by dense slender hyaline setæ, which are flexuous, smooth, and septate. Conidia oblong,  $8-4 \times 1\frac{1}{2} \mu$ .

On stalks of *Trollius*. West Kilbride, Ayrshire. (*D. A. Boyd.*)

**Diaporthe (Euporthe) ilicina**, Cooke Fungi Britt. 490.

Stromate ramulos cortice relaxato, in ligni superficie nigricante limitato, peridermio decolorato; lineo nigro circumscripto; peritheciis globulosis, singulis vel gregariis, ostiolo leniter emergente, ascis subfusoidis; sporidiis lanceolatis, quadrinucleatis, dein uniseptatis,  $16-18 \times 3 \mu$ .

On *Ilex aquifolius*.

**Physalospora Thistletonia**, Cooke.

Epiphyllous. Spots large, irregular, pallid, with a roseate border. Perithecia scattered over the spots, depressedly globose, black, covered by the cuticle; asci clavate. Sporidia biseriata, subanceolate, continuous, hyaline, with 3-5 nuclei,  $22 \times 7 \mu$ .

On fading leaves of *Rhododendron*.

**Lophiostoma (Lophiotrema) hysterioides**, Currey in Herb.

Peritheciis gregariis, semiimmersis, atris, subgloboseis, lateraliter compressis, ostiolo lineari. Ascis clavatis, octosporis. Sporidiis fusiformibus, primum 1-septatis, nucleatis, demum, 3-5 septatis, hyalinis, vix constrictis ( $03 \times 005$  mm.).

On rotten wood. Chislehurst, England.

## SYNOPSIS PYRENOMYCETUM.

By M. C. COOKE.

(Continued from p. 67).

5458. Weinmanniæ, Cke.	7453	5463. pandurata, Ell. & Ev.	...	6432
5459. atra, Lev.	1921			
5460. cassinopsidis, K. & C.	1922	5464. Banksiæ, C. & M.		
5461. coffeicola, Cke.	1923	5465. fraxini, Nsl.		
5462. gordoniæ, Cke.	6052	5466. alyxiæ, C. & M.		
		5467. bracteophila, Pass.		

## \*\* Clado-carpogenæ.

5468. melanophora, Speg.	1924	5474. leguminis-cytisi, Desm.	...	1929
5469. fumaginea, Catt.	1925			
5470. hæmatites, Rob.	2159	5475. conigena, Peck.		
5471. cytisi-sagittalis, Awd.	1926		6415	6433
5472. inflata, Penz.	1927	5476. sordidula, Speg.	...	6434
5473. inconspicua, Schrot.	1928	5477. polyspora, Joh.	...	6459

## † Herbicolaæ.

## \* Foliicolaæ.

5478. fusispora, Fckl.	...	6435	5499. adusta, Fckl.	...	6440.
5479. pulsatillæ, Lasch.	1930		5500. epilobii, Crie.	...	1943
5480. hellebori, Roum.			5501. cœnotheræ, Ell. & Ev.	...	6450
	Fl. Gall	1710			
5481. nivalis, Oud.	...	6436	5502. hypericina, Ellis		6057
5482. lachesis, Sacc.	...	1931	5503. intermixta, Nsl.	...	6054
5483. thalictri, Ell. & Ev.		6437	5504. tingens, Nsl.	...	6059
5484. hermione, Sacc.	...	1932	5505. desmodii, Wint.	...	6441
5485. epimedii, Sacc.	...	1933	5506. Linhartiana, Nsl.		6442
5486. papaveris, Fckl.	...	6458	5507. vulnerariæ, Fckl.		1944
5487. adonis, Sacc.	...	1934	5508. consociata, Rehm.		6443
5488. nubigena, Speg.	...	6056	5509. phaseolicola, Desm.		1945
5489. umbrosa, Sacc.	...	1935	5510. Morierei, Crie.	...	1946
5490. macowaniana, Wint.	...	6438	5511. nemorosa, S. & Sp.		1947
5491. pedicularis, Karst.		1936	5512. nerviseda, Speg.	...	1948
5492. pyrenaica, Speg.	...	6057	5513. ariadna, Sacc.	...	1949
5493. impatientis, P. & Cl.		1937	5514. potentillæ, Oud.	...	6444
5494. carniolica, Nsl.	...	1938	5515. geicola, K. & C.	...	1950
5495. brassicicola, Duby.		1939	5516. fragariæ, Tul.	...	1951
	= armoraciæ, Fckl.		5517. earliana, Wint.	...	6445
5496. sylvatica, S. & Sp.		1940	5518. dejanira, Sacc.	...	1952
5497. sarraceniciæ, Schwz.		1941	5519. maculans, S. & R.		1953
5498. microspila, B. & Br.		1942	5520. ootheca, Sacc.	...	1954
			5521. dryadis, Awd.	...	1955

5522. octopetalæ, *Oud.*... 6446  
 5523. Biberwierensis, *Awd.* 1956  
 5524. innumerella, *Karst.* 1957  
 5525. melanoplaca, *Desm.* 1958  
 5526. pseudo-maculifor-  
       mis, *Desm.* ... 1950  
 5527. jurinæ, *Fckl.* ... 1961  
 5528. eriophila, *Nsl.* ... 1962  
 5529. confinis, *Karst.* ... 1967  
 5530. maculicola, *Wint.* 6449  
 5531. pieris, *Sacc.* ... 1963  
 5532. tussilaginis, *Rehm.* 1964  
 5533. arnicæ, *Speg.* ... 1965  
 5534. hieracii, *Cke.*  
 5535. carlinæ, *Wint.* ... 1966  
 5536. affinis, *Wint.* ... 1967  
 5537. sarracenica, *S. & R.* 1968  
 5538. majuscula, *Cke.* ... 6055  
 5539. taraxaci, *Karst.* ... 1969  
 5540. sibirica, *Thum.* ... 1970  
 5541. leucophæa, *Ell. &*  
       *Kell* ... ... 6451  
 5542. smegmatos, *Pass.* 1971  
 5543. tingens, *Nsl.*  
 5544. isariphora, *Desm.* 1972  
 5545. subnivalis, *Rehm.* 6449  
 5546. venziana, *Sacc.* ... 1973  
 5547. densa, *Rostr.* ... 6439  
 5548. stellarinearum,  
       *Rabh.* ... ... 1974  
 5549. pulviscula, *Cocc.*... 6448  
 5550. erysiphina, *B. & Br.* 1975  
 5551. eryngii, *Wallr.* ... 1976  
 5552. brionnensis, *S. & M.* 6457  
 5553. primulæ, *Awd.* ... 1977  
 5554. mariæ, *Sacc. &*  
       *Boum.*... ... 7454  
 5555. Harknessi, *Sacc.*... 1978  
       =*brachytheca*, *C. &*  
       *Hk.*  
 5556. adusta, *Nsl.* ... 1979  
 5557. rumicis, *Desm.* ... 1980  
 5558. rhei, *Roum.*  
 5559. eucarpa, *Karst.* ... 1981  
 5560. polygonorum, *Crie.* 1982  
 5561. circe, *Sacc.* ... 1983  
 5562. depazeæformis,  
       *Awd.* ... ... 1984  
 5563. oxalidis, *Kirsch.* ... 1635  
 5564. selene, *Sacc.* ... 1985  
 5565. panacis, *Cke.* ... 6053  
 5566. aristotelis, *Cke.*... 7457

\*\* *Clado-carpogence.*

5567. baptisiæcola, *Cke.*  
       6060 6455  
 5568. granulata, *Ell. &*  
       *Ev.* ... ... 7455  
 5569. melaena, *Pr.* ... 1986  
 5570. plantaginis, *Sollm.* 1987  
 5571. circumvaga, *Desm.* 1988  
 5572. pinodes, *B. & Br.*... 1989  
 5573. vesicaria, *Pass.* ... 6452  
 5574. trifolii, *Karst.* ... 1990  
 5575. calycicola, *Pass.*... 6453  
 5576. astragali, *Curr.* ... 6061  
 5577. lathyrina, *B. & C.*  
 5578. spinarum, *Awd.*... 1991  
 5579. Passeriniana, *Sacc.* 6062  
 5580. cruciferarum, *Fr.* 1992  
 5581. aliena, *Pass.* ... 6063  
 5582. compositarum,  
       *Awd.* ... ... 1993  
 5583. xanthicola, *C. & H.* 6454  
 5584. præcox, *Pass.* ... 1994  
 5585. dahliæ, *C. & Ell.* 1995  
 5586. nebulosa, *Pers.* ... 1996  
 5587. trichophila, *Karst.* 1997  
 5588. Winteriana, *Sacc.* 1998  
 5589. pachypleuri, *Fckl.* 6456  
 5590. vincetoxici, *Sacc.* 1999  
 5591. gypsophilæ, *Fckl.* 2000  
 5592. euphorbiæ-spinosæ,  
       *Not.* ... ... 2001  
 5593. salicorniæ, *Awd.* ... 2002  
 5594. peruviana, *Sp.* ... 2003  
 5595. fuscata, *Ell.* ... 2004  
 5596. sagedioides, *Wint.* 2005  
 5597. umbelliferarum,  
       *Awd.* ... ... 2006  
 5598. leptasca, *Awd.* ... 2007  
 5599. sciadophila, *Pass.* 2008  
 5600. rubella, *Nsl.* ... 2009  
 5601. Mougeotiana, *Sacc.* 2010  
 5602. peregrina, *Cke.* ... 2011  
 5603. minor, *Karst.* ... 2012  
 5604. hyperici, *Awd.* ... 2013  
 5605. gentianæ, *Nsl.* ... 2014

5606. *campanulæ*, *E. & K.* 5611. *caulicola*, *Karst.* ... 2019  
 5607. *galatea*, *Sacc.* ... 2015 5612. *micromeriæ*, *Pass.* 2020  
 5608. *morphæa*, *Sacc.* ... 2016 5613. *polygramma*, *Fr.* 2021  
 5609. *arthropyrenioides*, 5614. *nigrita*, *Grog. F.*  
*Awd.* ... 2017 *Gall.* 1606  
 5610. *cannabis*, *Wint.* ... 2018 5615. *aristolochiæ*, *Roum.* 1601

B. In *Monocotyledoneis*.

5616. *schœnoprasi*, *Awd.* 2022 5646. *Malinverniana*,  
*Catt.* ... 2043  
 5617. *allicina*, *Fr.* ... 2023 5647. *phyllachoroides*,  
*Sacc.* ... 2045  
 5618. *cinxia*, *Sacc.* ... 2024 5648. *leptopleura*, *Not.* 2046  
 5619. *matura*, *Sacc.* ... 2025 5649. *ignobilis*, *Awd.* ... 2047  
 5620. *brunneola*, *Fr.* ... 2026 5650. *exitialis*, *Mori.* ... 6465  
 5621. *asteroma*, *Fr.* ... 2027 5651. *muhlenbergiæ*,  
*Ellis* ... 6069  
 5622. *smilacicola*, *Schwz.* 2028 5652. *graminicola*, *Fckl.* 2048  
 5623. *subcongregata*, *Ell.*  
*& Ev.* ... 7458 5653. *perexigua*, *Karst.* 2049  
 5624. *pales*, *Sacc.* ... 2029 5654. *najas*, *Sacc.* ... 2050  
 5625. *agapanthi*, *K. & C.* 2030 5655. *longissima*, *Fckl.* 2051  
 5626. *iridis*, *Awd.* ... 2031 3656. *luzulæ*, *Cke.* ... 2052  
 5627. *minimæpuncta*,  
*Cke.* ... 6064 3657. *præparva*, *Pass.* ... 6070  
 5628. *caladii*, *Schwz.* ... 2032 5658. *depressa*, *Sacc.* ... 1709  
 5629. *orchidearum*, *Karst.* 6462 5659. *scirpi-lacustris*,  
*Awd.* ... 2053  
 5630. *maydis*, *Pass.* ... 2033 5660. *thais*, *Sacc.* ... 2054  
 5631. *paulula*, *Cke.* ... 2034 5661. *pusilla*, *Awd.* ... 2055  
 5632. *zææ*, *Schwz.* ... 2035 5662. *saxatilis*, *Schrot.* ... 2056  
 5633. *paralellogramma*,  
*Rehm.* ... 6461 5663. *caricicola*, *Fckl.* ... 1642  
 5634. *disseminata*. *Not.*  
2036 6068 5664. *Wichuriana*, *Schrot.* 2057  
 5635. *chlouna*, *Cke.* ... 2037 5665. *tassiana*, *Not.* ... 2058  
 5636. *californica*, *C. & H.* 6065 5666. *lineolata*, *Desm.* ... 2059  
 5637. *ceres*, *Sacc.* ... 2038 5667. *typhæ*, *Lasch.* ... 2060  
 5638. *bacillifera*, *Karst.* 6463 5668. *incisa*, *Ell. & M.* ... 6460  
 5639. *anarithma*, *B. & Br.* 2039 5669. *gastonis*, *Sacc.* ... 6467  
 5640. *philochorta*, *Cke.* 6066 5670. *sabaligena*, *Ell. &*  
*Ev.* ... 7456  
 5641. *epistroma*, *Cke.* ... 6067 5671. *intercellularis*, *B. &*  
*C.* ... 2183  
 5642. *badensis*, *Nsl.* ... 2040 5672. *lamprocarpi*, *Pass.*  
 5643. *agrostidis*, *Cast.* ... 2041 5673. *zizaniæ*, *Schwz.* 4411  
 5644. *junciginea*, *Cke.*  
 5645. *phœnicis*, *Ces.*

C. In *Acotyledoneis*.

5674. *pteridis*, *Desm.* ... 2061 5680. *asplenii*, *Awd.* ... 2067  
 5675. *indistincta*, *Peck.* 2062 5681. *lycopodina*, *Karst.* 2068  
 5676. *aquilina*, *Fr.* ... 2063 5682. *equiseti*, *Fckl.* ... 2069  
 5677. *prominula*, *Speg.* ... 2064 5683. *trichomanis*, *Cke.* 6468  
 5678. *filicum*, *Desm.* ... 2065 5684. *parasitica*, *Wint.* 6469  
 5679. *tyrolensis*, *Awd.* ... 2066



## D. In Charta, &amp;c.

5685. *Karsteniana*, *Speg.* 2070 5686. *congregata*, *Lev.* ... 2071E. *Species minus notæ.*

5687. *corylaria*, *Wallr.* ... 2072 5699. *atomus*, *Desm.* ... 2085  
 5688. *vitis*, *Fckl.* ... 2073 5700. *aucuparia*, *Lasch.* 2086  
 5689. *turba*, *Fckl.* ... 2074 5701. *fagicola*, *Fr.* ... 2087  
 5690. *insularis*, *Wallr.* ... 2075 5702. *mercurialis*, *Lasch.* 2088  
 5691. *leptidea*, *Fr.* ... 2076 5703. *ferruginea*, *Fckl.* 2090  
 5692. *emeri*, *Ces.* ... 2077 5704. *subalpina*, *Sacc.* ... 2091  
 5693. *rottleræ*, *B. & Br.* 2079 5705. *aronici*, *Fckl.* ... 2092  
 5694. *bonaërensis*, *Speg.* 2080 5706. *petasidis*, *Rabh.* ... 2093  
 5695. *arbuti*, *Fr.* ... 2081 5707. *cerastii*, *Fckl.* ... 2094  
 5696. *acerina*, *Wallr.* ... 2082 5708. *perforans*, *Desm.* ... 2095  
 5697. *mori*, *Fckl.* ... 2083 5709. *cinereo-nebulosa*,  
*Desm.* ... 2096  
 5698. *caprifoliorum*,  
*Desm.* ... 2084 5710. *polypodii*, *Rabh.* ... 2097

F. *Species dubiæ.*

5711. *convallariæ-majalis*, *Kirch.* ... 4457 5724. *herbicola*, *Schwz.* 4476  
 5712. *leucoplaca*, *Kirch.* 4458 5725. *excipulans*, *Schwz.* 4480  
 5713. *cotyledonum*, *Kirch.* 4459 5726. *collapsa*, *Schwz.* ... 4481  
 5714. *carlinæ*, *Kirch.* ... 4460 5727. *coptis*, *Schwz.* ... 4482  
 5715. *macrocarpa*, *Rabh.* 4461 5728. *corni*, *Schwz.* ... 4483  
 5716. *asari*, *Klot.* ... 4463 5729. *coccineo-maculata*,  
*Schwz.* ... 4484  
 5717. *tigrinans*, *Schwz.* ... 4464 5730. *andromedæ*, *Schwz.* 4485  
 5718. *subbullans*, *Schwz.* 4465 5731. *angelicæ-lucidæ*,  
*Schwz.* ... 4486  
 5719. *staphyleæ*, *Schwz.* 4466 5732. *apertiuscula*, *Schwz.* 4487  
 5720. *plantaginicola*,  
*Schwz.* ... 4470 5733. *concentrica*, *B. & C.* 4488  
 5721. *perigynicola*,  
*Schwz.* ... 4472 5734. *catalpicola*, *Schwz.* 4489  
 5722. *nigredo*, *Schwz.* ... 4474 5735. *dryophila*, *Schwz.* 4490  
 5723. *mori-albæ*, *Schwz.* 4475 5736. *kalmicola*, *Schwz.* 4491  
 5737. *tulipiferæ*, *Schwz.* 4492

Sub.-Gen. A. LIZONIA. *Erumpentia superficialia.**Sporidia* 1 *septata-hyalina.*

5738. *emperigonia*, *Awd.* 2244 5744. *guaranitica*, *Speg.* 6511  
 5739. *distincta*, *K.* ... 2245 5745. *paraguayensis*,  
*Speg.* ... 6512  
 5740. *fragilis*, *B.* ... 2246 5746. *inæqualis*, *Wint.* ... 6513  
 5741. *pullulans*, *B.* ... 2247 5747. *sphagni*, *Cke.*  
 5742. *bertioides*, *S. & B.* 6509  
 5743. *abscondita*, *Johan.* 6510

Sub.-Gen. B. EPICYMATIA, *Fckl.* *Lichenicola.**Sporidia* 1 (3?) *septata, subhyalina.*

5748. *vulgaris*, *Fckl.* ... 2231 5749. *mammillula*, *Anzi.* 2233  
 =*apotheciorum*,  
*Mass.* 5750. *thallina*, *Cooke.* ... 2234  
 5751. *araneosa*, *Rehm.* ... 2235

- |                                       |  |
|---------------------------------------|--|
| 5752. borealis, <i>Sacc.</i> ... 2236 | 5759. verrucariæformis,<br><i>Fckl.</i> ... 2243 |
| 5753. frigida, <i>Sacc.</i> ... 2237  |  |
| 5754. thallophila, <i>Cooke</i> 2238  | 5760. ulothii, <i>Korb. Kunze. Exs.</i><br>78    |
| 5755. hageniæ, <i>Rehm.</i> ... 2239  | 5761. balani, <i>Winter</i>                      |
| 5756. lichenicola, <i>Mass.</i> 2240  | 5762. psoræ, <i>Anzi. Anal.</i> p. 27            |
| 5757. psoromatis, <i>Mass.</i> 2241   | 5763. Winteri, <i>Kunze Exs. No.</i><br>65.      |
| 5758. massariæ, <i>Pass.</i> ... 2242 |  |

GEN. 3. **SPHÆRULINA.** Sporidia 3-pleuriseptata.

- \* EU-SPHÆRULINA. *Asci aparaphysati, sporidia septata, hyalina.*
- |   |  |
|---|--|
| 5764. myriadea, <i>D. C.</i> ... 3524     | 5772. sambucina, <i>Peck.</i> 7044                       |
| 5765. serograptæ, <i>D. R.</i>            | 5773. potentillæ, <i>Rostr.</i> 7046                     |
| & <i>M.</i> ... 3525                      | 5774. subglacialis, <i>Rehm.</i> 7047                    |
| 5766. fraxinea, <i>S. &amp; S.</i> 3526   | 5775. Boudieriana, <i>S. &amp;</i><br><i>M.</i> ... 7048 |
| 5767. umbilicata, <i>S. &amp; M.</i> 3527 | 5776. caricis, <i>Pat.</i> ... 7049                      |
| 5768. Leightoni, <i>Berk.</i> ... 3532    | 5777. assurgens, <i>Oke.</i> ... 7494                    |
| 5769. vaginæ, <i>Lasch.</i> ... 1647      | 5778. todeæ, <i>Oke.</i> ... 7045                        |
| 5770. islandica, <i>Rostr.</i> ... 7043   | 5779. acetabulum, <i>B.</i> ... 1625                     |
| 5771. cryptospila, <i>B.</i>              |  |

\*\* METASPHÆRIA. *Asci paraphysati.*

## † Sporidia 2-4 septata.

- |  |  |
|--|--|
| 5780. papulosa, <i>D. R. &amp;</i><br><i>M.</i> ... 3453 | 5789. empetri, <i>Fr.</i> ... 3463     |
| 5781. helicicola, <i>Desm.</i> ... 3454                  | 5790. vinæ, <i>Fr.</i> ... 3464        |
| 5782. hederæ, <i>Sow.</i> ... 3455                       | 5791. hederæfolia, <i>Cke.</i> 6148    |
| 5783. nobilis, <i>Sacc.</i> ... 3456                     | 5792. xerophylli, <i>Ell.</i> ... 6149 |
| 5784. immunda, <i>K.</i> ... 3457                        | 5793. Lieuryana, <i>Mall.</i> 7034     |
| 5785. acerum, <i>Crie.</i> ... 3458                      | 5794. molleriana, <i>Nsl.</i> ... 7035 |
| 5786. acuum, <i>C. &amp; E.</i> ... 3459                 | 5795. caraquata, <i>Speg.</i> ... 7036 |
| 5787. palustris, <i>M.</i> ... 3461                      | 5796. cerabidis, <i>Joh.</i> ... 7037  |
| 5788. cynaraceum, <i>Nsl.</i> 3462                       | 5797. nervisequia, <i>Wint.</i> 7039   |

## †† Sporidia 5-pleuriseptata.

- |                                       |                                     |
|---------------------------------------|-------------------------------------|
| 5798. pachyasca, <i>Nsl.</i> ... 3465 | 5799. Peckii, <i>Speg.</i> ... 3466 |
|---------------------------------------|-------------------------------------|

\*\*\* LEPTOSPHÆRELLA. *Asci paraphysati, sporidia septata, leniter colorata.*

## † Sporidia 2-4 septata.

- |   |  |
|---|--|
| 5800. uliginosa, <i>P. &amp; P.</i> 3020    | 5806. aglaia, <i>S.</i> ... 3026               |
| 5801. silenes-acaules, <i>Not.</i> 3021     | 5807. austro-americana,<br><i>Sp.</i> ... 3027 |
| 5802. Hausmanniana,<br><i>Awd.</i> ... 3022 | 5808. Plemeliana, <i>N.</i> ... 3028           |
| 5803. sabauda, <i>Speg.</i> ... 3023        | 5809. primulæcola, <i>Wint.</i> 3029           |
| 5804. minima, <i>Duby.</i> ... 3024         | 5810. subsecta, <i>Wint.</i> ... 3030          |
| 5805. lathonia, <i>S.</i> ... 3025          | 5811. andromedæ, <i>Awd.</i> 3031              |

5812. collumiæ, <i>B. &amp; C.</i> 3032	5820. hedericola, <i>Desm.</i> 3040
5813. salicinearum, <i>Pass.</i> 3033	5821. lucina, <i>Sacc.</i> ... 3041
5814. dryadea, <i>Sacc.</i> ... 3034	5822. lucilla, <i>Sacc.</i> ... 3042
5815. Decaisneana, <i>Cke.</i> 3035	5823. marginalis, <i>Sacc.</i> 3043
5816. dryophila, <i>C. &amp; H.</i> 3036	5824. vinealis, <i>Pass.</i> ... 3044
5817. ægira, <i>S. &amp; S.</i> ... 3037	5825. camilleæ, <i>C. &amp; M.</i>
5818. coffeigena, <i>B. &amp; C.</i> 3038	5826. helichrysi, <i>C.</i>
5819. diana, <i>S. &amp; S.</i> ... 3039	

†† *Sporidia* 5 septata.

5827. Passerinii, <i>Sacc.</i> ... 3045	5832. australis, <i>Crie.</i> ... 3050
5828. ærea, <i>Sp.</i> ... 3046	5833. citricola, <i>Penz.</i> ... 3051
5829. pulchra, <i>Wint.</i> ... 3047	5834. yulan, <i>Sacc.</i> ... 3052
5830. camilla, <i>Schw.</i> ... 3048	5835. pomona, <i>Sacc.</i> ... 3053
5831. marginata, <i>N.</i> ... 3049	5836. acicola, <i>Fckl.</i> ... 3054

††† *Sporidia* 7-10 septata.

5837. vinosa, <i>Sp.</i> ... 3055	5838. alcides, <i>Sacc.</i> ... 3056
-----------------------------------	--------------------------------------

GEN. 4. **LINOSPORA.** *Sporidia* filiformia, hyalina.

5839. procumbens, <i>Fckl.</i> 4092	5848. leucospila, <i>B. &amp; C.</i> 4101
5840. tremulæ, <i>Morth.</i> ... 4093	5849. elata, <i>S. &amp; S.</i> ... 4102
5841. candida, <i>Fckl.</i> ... 4094	5850. insularis, <i>Joh.</i> ... 7145
5842. conflictæ, <i>Cke.</i> ... 4095	5851. ferruginea, <i>Ell. &amp; M.</i> ... 7146
5843. ochracea, <i>Desm.</i> ... 4096	5852. viburni, <i>Buck.</i> ... 7147
5844. ischnotheca, <i>Desm.</i> 4097	5853. guaranitica, <i>Speg.</i> 7148
5845. magnagutiana, <i>Sacc.</i> ... 4098	5854. linosporoides, <i>Speg.</i> ... 4062
5846. faginea, <i>Sacc.</i> ... 4099	5855. tanaceti, <i>Fckl.</i> ... 4063
5847. carpini, <i>Schrot.</i> ... 4100	

## AUSTRALIAN FUNGI.

By M. C. COOKE.

**Pestalotziella circulare, Cke. & Mass.**

Developed on both surfaces of the leaves. Pseudo-perithecia usually disposed in circles, a little convex, and at length splitting irregularly, at first brown, then nearly black and shining, resembling *Phyllachora*. Conidia cylindrically elliptical,  $30-34 \times 8-10 \mu$ , hyaline, continuous, with granular contents, furnished at the apex with a single hyaline seta, base with a short thick pedicle, and usually 3 or 4 divergent hyaline hairs at the base of the spore.

On dead leaves of *Eucalyptus parviflora*. (*Mrs. Martin*, 480, 485, 486.)

**Asterina (Asterella) Alsophilæ, Cks. & Mass.**

Perithecia membranaceous, discoid, suborbicular, mostly confluent in oblong or irregular patches, pitchy-black, cellules radiating, mostly dentate at the margin. Asci pear-shaped, or shortly clavate, octosporous. Sporidia elliptical, uniseptate, unequal, the lower cell double the length of the upper, and a little attenuated,  $9-10 \times 4-5 \mu$  hyaline.

On *Alsophila rebeccæ*. N.E. Queensland. (Baron Muller.)

**Phacidium (Fabræa) rhytismoideum, Cks. & Mass.**

Cups clustered together upon a kind of pseudo-stroma in the centre of the leaves; usually 6 to 8, minute, externally dark brown, disc pallid, cinereous, closing in drying, and wholly becoming pitchy brown, nearly black, and then resembling a *Rhytisma*. Asci clavate with numerous paraphyses. Sporidia cylindrical, obtuse at the ends, uniseptate, hyaline,  $16-18 \times 3-4 \mu$ .

On living leaves of *Cotula*. Macedon. (Mrs. Martin.)

---

## WOOLHOPE CLUB TRANSACTIONS.

The ninth volume of these Transactions has just been issued, including the years 1883-4-5, and although some of the papers seem now to be matters of ancient history, the volume is welcome, not least for the excellent photograph of the late Dr. H. G. Bull. The heavy cost of the publication of the "Pomona" caused the Transactions to be set aside from year to year, but now that the "Herefordshire Flora" is issued, it is to be hoped that the succeeding three years—1886-7-8—will soon make an appearance, and then the arrears will be fairly disposed of. Criticism of the papers in the present volume is out of the question, but it may be well to name the titles of the principal communications which come within the province of this journal. "The Salmon Disease," by H. C. Moore; "On some Species of *Tricholoma* not easily distinguished from each other," by Canon Du Port; "On the colours of Fungi as indicated by the Latin words used by Fries," by Canon Du Port; "Mr. Jensen and the Potato Disease," "Wheat Mildew Legislation," and "Heteræcismal Fungi," by C. B. Plowright; "On Alkaloids, &c., extracted from Fungi," by C. G. Stewart; "The *Chroolepus Iolithus*," by Edwin Lees; "Notes on the Edible Fungi of Italy," by A. S. Bicknell; "On Fries's Nomenclature of Colours," by H. T. Wharton; "British species of *Nidularia*," by W. Phillips; "Researches into the Oospores of some Fungi," by J. E. Vize; "Gigantic Fungi," by M. C. Cooke; "The Genus *Pestalozzia*," by J. E. Vize; "The Vegetable Caterpillar," by Dr. Bull; the whole concluding with a neat "In Memoriam" dedicated to the "father of the Woolhope Club." We congratulate the present editor, Mr. H. Cecil Moore, on the energy with which he is pushing forward the publication of the back Transactions, and the care with which he supervises their production.

## BRITISH DISCOMYCETES.

*Notes and Additions No. 2.*

BY WILLIAM PHILLIPS, F.L.S.

***Peziza perlata*, Fr.**

Cups large, shortly stipitate, at first subglobose, then expanded, undulate, splitting at the margin; externally white, even; hymenium wrinkled, pale cinnamon; stem stout, lacunose, white; flesh thick; asci cylindraceo-clavate, attenuated below the sporidia, truncate at the summit; sporidia 8, elliptic, pale brown, smooth,  $15-20 \times 10-12 \mu$ ; paraphyses numerous, rather stout, septate, guttulate, broadly clavate at the summit, brown.

*Peziza perlata*, Fries Sys. Myc. ii., 43; Karst. Myco. Fenn. p. 39; Cooke Myco. fig. 239. *Discina perlata*, Fries, Sverige Svampar, t. 56.

Exs. Karst. Fung. Fenn. 531.

On burnt charcoal beds.

Cups  $2\frac{1}{2}$  in. broad before expanding,  $3\frac{1}{2}$  in., or even more, when expanded. Stem  $\frac{1}{2}$  in. long,  $\frac{3}{4}$  in. broad; flesh at base of cup  $\frac{1}{2}$  in. thick, near the margin 1 line thick. The sporidia are pale brown, and homogeneous within. Karsten found the sporidia in his specimens elliptic or fuso-elliptic, and 1-3 guttulate, neither of which characters were present in my specimens. Still, I have no doubt they are correctly referable to this species.

I am indebted for this handsome plant to the kindness of my friend, the Rev. G. H. Sawyer.

Near Guildford, Surrey! December, 1888.

***Mollisia atrata*,  $\beta$  *Ebuli* (Fr.).**

Erumpent, gregarious, minute, sessile, at first globose, urceolate, at length expanded, concave, cinereous-black, margin thin, paler; hymenium when moist cinereous, when dry black; asci cylindraceo-clavate, broad at the base; sporidia 8, sub-clavate or sub-cylindrical, simple,  $8, 10 \times 2-2, 5 \mu$ ; paraphyses filiform, slender, sparse.

*Peziza atrata*,  $\beta$  *Ebuli*, Fr. Sys. Myc. ii., p. 148; *Pyrenopeziza atrata*,  $\beta$  *Ebuli*, Fckl. Symb. p. 294.

Exs. Fckl. F. Rh. 1869.

On dead stems of *Sambucus ebulus*. July.

The cups are  $200-500 \mu$  broad ( $\cdot 2-5$  mm.), and at first covered by the epidermis, which at length is ruptured by them. The asci are  $40-50 \mu$  long,  $7-8 \mu$  broad. The pseudo-parenchyma of the cup passes near the margin into a nearly colourless fibroso-cellular tissue, as in all this group.

Middlehope, Shropshire!

***Mollisia vulgaris* (Fr.).**

Sessile, crowded, sub-caespitose, concave, membranaceous; white, yellowish-white, or pallid, glabrous; asci clavate; sporidia 8, cylindraco-oblong, sometimes curved,  $5-7 \times 1, 5 \mu$ ; paraphyses slender.

*Peziza vulgaris*, Fries (in part), Sys. Myc., ii. p. 146; Karsten Pez. et Ascob. p. 39; Nyl. Pez. Fenn. p. 59; *Helotium albellum* (with) Karst. Myco. Fenn. 116; Rev. Asco. Acta Sc. F. F. Fenn. 11, n. 6; *Pezizella Avellanæ* (Lasch.), Fckl. Symb. Myco. 299; *Mollisia vulgaris*, Gillet Champ. p. 119.

Exs. *Peziza vulgaris*, Desm. Crypt. Fr. ed. i., 1065; ed. ii., 465.

*Peziza avellanæ*, Lasch., Rabh. Fung. Eur. 28; Fckl. F. Rh. 2079; *Helotium albellum*, Rehm's Asco., 63.

On dead branches of *Corylus Avellana*.

The cups are  $\frac{1}{4}$  to  $\frac{1}{2}$  a line broad, usually caespitose, rarely sub-stipitate, bursting through the bark in little tufts; very thin and membranaceous; margin bent upwards, even. The colour is whitish, the surface smooth. The tissue of the cup is composed of connate slender filaments. I have not been able to detect sporidia in the British specimens. The dimensions given above are from Dr. Nylander.

Shere. Dr. E. Capron! Carlisle! Dr. Carlyle.

***Lachnea mirabilis* (Bor.).**

Growing singly, or several from the same base. Cup fleshy, explanato infundibuliform, rather fragile, externally whitish-tomentose, as is the rooting stem, which is enlarged upwards; margin elegantly crenato-incised, apices of the crenatures rounded, reflexed, somewhat revolute; disc umbilicate, beautifully bright crimson; asci cylindrical; sporidia elliptic 3-5 guttulate,  $33-35 \times 13-17 \mu$ ; paraphyses linear, septate, coloured with scarlet granules.

*Peziza mirabilis*, Borszczow, in Fungi Ingrici p. 61, t. iv. and v. Cooke Mycogr. fig. 98.

In shady woods, amongst pine leaves. May.

The height of the British specimens of this beautiful species is about  $1\frac{1}{4}$  inches, and the stem is clothed with slender white hairs.

Growing in clusters of two to six among grass on the banks of the Dee near Ballater, N.B. April. Professor James W. H. Trail.

***Lachnea confusa* (Cooke).**

Gregarious, sessile, subspherical, at length hemispherico-depressed, or convex, externally brown, clothed with short, fasciculate, brown, septate hairs; hymenium the same colour; asci cylindraco-clavate; sporidia 4-8, globose, uniguttulate, smooth,  $13 \mu$ ; paraphyses filiform, slightly enlarged at the summit, filled with red granules.

*Peziza confusa*, Cooke in Bull. Buff. Ac. Sci., 1875, 291; Myco. Fig. 124. *Peziza brunnea*, Nyl. Obs. p. 21; Karst. Myc. Fenn. p. 75; Grevillea iii., fig. 98a.

Exs. Karst. Fung. Fenn. 528.

On burnt soil. October.

Cups 2-6 mm. broad, partly immersed in the soil, having numerous brown, septate, entangled hairs at the base, the upper exposed surface and the margin clothed with short, stout, brown, fasciculate hairs, from 30 to 70  $\mu$  long, and 3-7  $\mu$  thick, tapering towards the summit. The cells of the pseudo-parenchyma are about 10 to 15 in diameter, but vary above this size in some individuals. It is very near *Peziza schizospora*, the chief difference being the hairy surface of the cup.

I am indebted to Mr. W. Stewart, of Glasgow, for specimens of this interesting addition to our flora.

Epping Forest. Mr. W. Stewart.

***Lachnella virginea* (Batsch).**

***$\beta$ . selecta*, Karst.**

Differs from the type in the larger cups ( $\frac{1}{2}$  a line), the somewhat thicker, longer ( $\frac{1}{2}$  line to  $1\frac{1}{2}$  lines), and more flexuous, stem; sporidia 4-11  $\times$  1-2  $\mu$ , paraphyses 4  $\mu$  thick.

*Peziza selecta*, Karst. Monogr. Pez. p. 192; *Lachnum selectum*, Karst. Myco. Fenn. p. 170.

On back and cones of *Pinus* and *Abies*. July to October.

Hampton-in-Arden! Mr. W. B. Grove. 1884.

***Lachnella grisella* (Rehm).**

Cups scattered shortly stipitate, turbinate, greyish, inclining to brown, clothed with pale brownish, or sub-hyaline, flexuous, simple hairs; tissue prosenchymatous; asci clavate, sub-acute at the apex, sometimes curved; sporidia 8, oblong-clavate, straight, or a little bent, biseriate, 7-9  $\times$  2-2, 5  $\mu$ ; paraphyses filiform, slender, hyaline.

*Helotium grisellum*, Rehm., Hedwigia, 1885.

Exs. Rehm's Asco. No. 766.

On dead fronds of *Pteris aquilina*. August.

Dr. Rehm justly remarks that this is a very difficult species to detect, nestling on the underside of the leaf amongst the hairs. The cups are about 400  $\mu$  broad and 300  $\mu$  high, substipitate or sessile, margin fringed with simple, colourless hairs 25  $\mu$  long 2  $\mu$  broad; the asci are 35  $\times$  5  $\mu$ . This is near *Lachnella aspidiicola* (B. & Br.), but has a shorter stipes, is a darker colour, and has larger sporidia.

The Isle of Orkney! Professor J. W. H. Trail. 1888.

***Lachnella callimorpha* (Karst).**

Gregarious, sessile, or shortly stipitate, tomentose; cups somewhat plane, when dry sphaerical, or hemisphaerical, contracted; hymenium yellow, or orange yellow; asci cylindrical-subclavate; sporidia 8, biseriate, linear fusiform, with 6-8 guttulæ, or spuriously pluriseptate, straight, 17-20  $\times$  1, 5-2  $\mu$ ; paraphyses acerose.

*Lachnea callimorpha*, Karst. Symb. p. 250; *Lachnum callimorpha*, Karst. Myco. Fenn. p. 173.

Exs. Karst. Fung. Fenn. 835.

On leaves of *Eriophorum angustifolium*. April.

Cups 300-500  $\mu$  broad. The hairs of the cup are colourless, straight, 40-50  $\mu$  long, and about 4  $\mu$  broad, obtuse, simple, and granular within.

Near Aberdeen! April 28, 1887. Professor Jas. W. H. Trail. No. 26.

***Lachnella puberula*, Lasch.**

Minute, scattered, or gregarious, sessile, plane, or slightly concave, minutely pubescent, white, asci clavate; sporidia 8, oblongo-elliptic, or sub-fusiform, hyaline, 7-10  $\times$  3-4  $\mu$ ; paraphyses slenderly filiform, sparse.

*Peziza puberula*, Lasch in Klotz Herb. Myco.

*Pseudohelotium puberulum*, Fekl. Symb. p. 298.

Exs. Klotz. Herb. Myc. No. 1529; *Helotium puberulum*, Fekl. F. Rh. 1150; Cooke Fung. Brit. ed. i., 574.

On fallen oak leaves. Autumn and winter.

Cups 300-400  $\mu$  broad; the hairs are slender, simple, short, hyaline, deciduous with age, 3-4  $\mu$  long, 2  $\mu$  broad. Nearly allied to *Lachnella fugiens*, but differing in the larger asci and sporidia.

Handsworth, near Birmingham! Mr. W. B. Grove, King's Norton! W. B. Grove.

***Patellaria sphaerospora*, B. & C.**

Scattered or crowded, applanate, margined, black, rather thin; asci cylindraceo-clavate; sporidia 8, sub-spherical, elliptic, or sub-pyriform, brown, uni-guttulate, 7-9  $\mu$  or 10  $\times$  6  $\mu$ ; paraphyses filamentous.

*Patellaria sphaerospora*, B. & C. Cooke Disco. U.S. p. 26 (without description). Kew Herbarium No. 4460; Herb. Berk.; Sacc. Sylloge p. 790.

On dead wood.

Cups  $\frac{1}{2}$  to 1 line broad: the variable form of the sporidia is remarkable.

This species of Berkeley and Curtis, found by the latter in Lower Carolina, U.S., original specimens of which exist in the Kew Herbarium, has occurred in the New Forest, Hampshire, and was sent me in March last by Miss Beatrice Taylor, Old House, Ringwood.

***Schmitzonia Luzulae* (Lib.).**

var. *Junci*, Karst.

Scattered, erumpent, then more or less protuberant, orbicular, urceolate, at first closed, then open; whitish, margin nearly entire, powdery-white; hymenium rosy, or pale orange colour; asci cylindrical; sporidia 8, filiform, adherent, multiseptate, 120-130  $\times$  1-1.5  $\mu$ ; paraphyses abundant, slenderly filiform.

*Schmitzonia Luzulae*, var. *Junci*, Karst. Myco. Fenn. p. 238; *Stictis Luzulae*, var. *Junci*, Karst. Revisio Mon. p. 166. Sacc. Syll. p. 692.



Exs. Karsten Fung. Fenn. No. 931.

On culms of *Juncus conglomeratus*. Autumn.

Orkney (?)! Professor James W. H. Trail.

**Phacidium terrestre, Niessl.**

Gregarious; receptacle turbinate or fig-shaped; excipulum between leathery and membranaceous, chestnut-brown, at first closed, at length opening with a laciniate margin; hymenium undulated, sulphur yellow; asci clavate, attenuated into a stem, broadly rounded at the summit; sporidia 8, uniseriate, oblong, unequal, simple, continuous, or sometimes divided by one or two guttulæ, hyaline,  $11-13 \times 4-5 \mu$ ; paraphyses the length of asci, bifurcate at the apices.

*Podophacidium terrestre*, Niessl, Forhandl. Natur. Band. x. (1871), p. 213, t. v., f. 50.

On damp ground, amongst decayed leaves, etc.

Receptacle  $1-1\frac{1}{2}$  lines broad, and  $\frac{1}{2}$  to 1 line high; the asci  $124-136 \times 8-9 \mu$ . The sporidia are very rarely guttulate, and occasionally a sporidium is seen similar to the left hand figure of Niessl, in which there appears near the poles a contraction of the protoplasm, as though it were constricted. The paraphyses are slenderly filiform, often branched near the summit, where they are slightly thickened and curved downwards. There appears no necessity for creating a new genus for this.

Near Carlisle! Dr. Carlyle.

## SOME EXOTIC FUNGI.

By M. C. COOKE.

**Sphaerella (Læstadia) palustris**, Fr. in Duby Bot. Gall. ii., 710.

Hypophylla, sparsa. Peritheciis innatis, epidermide tectis, punctiformibus, nigris, nitidis, convexis, centro prominulo. Ascis cylindraceis sporidiis suballantoideis, hyalinis,  $10 \times 2 \mu$ . Desm. Exs. No. 365.

On leaves of *Caltha palustris*. France.

**Lixonia Sphagni**, Cooke.

Perithecia scattered, subglobose, black, rather prominent, with a mamillate ostiolum, seated on the decayed leaves, and soon becoming subsuperficial. Asci clavate, sporidia cylindrical, slightly curved at one or both ends, uniseptate (then probably triseptate), hyaline, colourless,  $40-50 \times 8 \mu$ .

On dead *Sphagnum*. Maine, U.S.

**1695\* Valsa (eutypella) clavulata**, Cooke.

Stromate valseo, e basi orbiculari, conico, obtuso, cortice innato, peritheciis 12-20 congestis; ostiolis elongatis, clavulatis, 4-5 sulcato-rugosis, exsertis, atris, opacis. Ascis clavatis ( $30 \times 10 \mu$ ),

octosporis. Sporidiis allantoideis, minutissimis,  $3-4 \times 1 \mu$  vel minoribus, hyalinis.

In cortice *Ailanthi*. Staten Island (*Mrs. Britton*).

Pustules much more numerous than in *Valsa glandulosa* and sporidia smaller. Moreover, the elongated beaks are distinctly sulcate. It differs entirely in habit from *Eutypella ventriosa*, C. & E., and *Eutypella ailanthi*, Sacc., as well as in the very minute sporidia. Superficially it resembles *Valsa ceratophora*, Tul.

***Discella palmicola*, Cke. & Mass.**

Peritheciis spurii, supra obsoletis, dein patellatis, erumpentibus, atris, initio epidermide tectis, dein lacerato-fissuratis, conidiis ellipticis, uniseptatis, nec constrictis, purpureo-fuscis,  $24-80 \times 9-12 \mu$ .

On palm petioles. Madagascar.

Analogous to *Diplodia*, but with an incomplete or pezizæform receptacle.

## ON CAMPBELLIA, GEN. NOV.

By M. C. COOKE.

Two species of large stipitate Fungi have been communicated from Africa and Australia, which it hardly seems possible to include in any known genus of Hymenomycetes. The hymenium and spores resemble *Merulius* rather than *Laschia*. The habit is that of *Boletus*, the substance gelatinous, becoming horny, and all the features suggesting a link between *Boletus* and *Laschia*. From *Merulius* it differs in the deeper pores, stipitate form, and fleshy pileus. From *Laschia* in its more fleshy character, more decided pores, with thin membranaceous dentate dissepiments, more or less lacunose interior (at least when dry) and terrestrial growth. From *Boletinus* in its tremellose, almost gelatinous substance.

GENUS **CAMPBELLIA**, Cke. & Mass.

Fleshy, soft, tremellose, horny when dry, pileate and stipitate; hymenium inferior. Flesh more or less lacunose (especially when dry), spongy. Pores large, angular, usually toothed or serrate at the edge, rather deep, with thin flaccid dissepiments. Trama descending. Spores elliptical, brown.

Name from Miss F. Campbell (*Mrs. Martin*), an enterprising Australian mycologist, who communicated one of the species.

1. ***Campbellia infundibuliformis*, Cke. & Mass.** — *Merulius infundibuliformis*, C. & M. *Grev.* XVI., p. 73. *Sacc. Syll.* No. 6523.

On the ground (?). Yarra, Australia.

2. ***Campbellia africana*, Cke. & Mass.**

Expanded, convex, then depressed in the centre (4in. diam.), dark coloured, becoming purplish-black and horny when dry. Stem short, thick ( $2 \times 1-2$ in.), attenuated downwards, solid, or

lacunose when dry. Pores broad, shallow, irregular, toothed at the edge, dessepiments thin, flaccid; spores elliptical ( $7.8 \times 4 \mu$ ), pale brown.

On the ground. Botanic Garden, D'Urban (Wood, 826, 4107).

## MEMORABILIA.

**FLORA OF WARWICKSHIRE.**—Mr. J. E. Bagnall's "Flora of Warwickshire" is now announced at the price of 12s. 6d. to subscribers. Names to be forwarded to J. E. Bagnall, 84, Witton Road, Aston, Birmingham. Afterwards the price will be raised.

**COOKE'S ILLUSTRATIONS OF FUNGI.**—Parts 1 to 59 form six volumes; parts 62 to 72 constitute Vol. vii., for which titles and index are issued in part 73. Then Vol. viii. or supplement will contain parts 41, 60, 61, 73, 74, and 75, with Title and Indices. The whole work will thus be completed during the current year.

**POLYPORUS PHLEBOPHORUS, Berk., Flora N. Zealand.**—Without doubt the *Polyporus niveicolor* of Colenso is the same species as the above, when compared with authentic specimens. The figure in the Flora of New Zealand is not by any means good, but the type specimens are in existence, from which the drawing was made.

**BERKELEY LIBRARY.**—The library of the late Rev. M. J. Berkeley has passed into the hands of Mr. John Wheldon, of 58, Great Queen Street, London, E.C., and will shortly be disposed of, Catalogue being already in course of preparation.

**POLYPORUS (FRONDOSI) SPARASSOIDES (Speg.).**—By some remarkable oversight the specimens No. 3352 in Balansa Plantes du Paraguay, called *Thelephora sparassoides*, Speg., Fung. Guar. Pug. i., p. 86, are really a frondose *Polyporus*, with very shallow, sometimes nearly obsolete, pores, and small colourless spores, about  $3 \times 2 \mu$ .

**GREVILLEA NOTICE.**—Unfortunately a large proportion of the stock of back numbers has been damaged by fire and water, so that it is advisable to complete sets at once, as certain numbers will become scarce.

**PEZIZA AURIFLAVA, Cooke.**—This very distinct species of the section *Humaria* has been found by Mr. E. Pearl, on clay soil at Helston in Cornwall. For the first time in Britain.

**INTRODUCTION TO FRESH WATER ALGÆ.**—One of the volumes of the International Scientific Library in progress on this subject, by M. C. Cooke, will be published shortly. It will include descriptions of all the British genera and species, with figures of all the genera, on 13 plates. The publishers are Messrs. Kegan Paul, Trench, Trübner and Co., and the price is five shillings.

## BRITISH PYRENOMYCETES.

By G. MASSEE.

*(Continued from p. 60.)*

GEN. 8. **PLEOSPORA.** Perithecia naked, sporidia muriform.

\* EU-PLEOSPORA. *Sporidia coloured.*

A. On *Dicotyledons.*

† *Sporidia 3 septate.*

*P. bardanæ*, *Nsl.*, *Sacc. Syll.* 3714.

On *Buddleia globosa*, Kew.

†† *Sporidia 5 septate.*

*P. vulgaris*, *Nsl.*, *Sacc. Syll.* 3720; *Hdbk.* 2692.

On herbs. Common.

*P. verecunda*, *Curr.*, *Sacc. Syll.* 3725; *Hdbk.* 2645.

On sticks. Batheaston.

*P. meliloti*, *Rab.*, *Sacc. Syll.* 3727.

On *Medicago sativa* and *Melilotus officinalis*. King's Lynn, Kew.

*P. platyspora*, *S.*, *Sacc. Syll.* 3729.

On *Euphorbia*. Darenth.

††† *Sporidia 7 septate.*

*P. herbarum*, *P.*, *Sacc. Syll.* 3750; *Hdbk.* 2692.

On herbs. Common.

*P. pisi*, *Sow.*, *Sacc. Syll.* 3731; *Hdbk.* 2692 a.

On leguminous plants. Common.

*P. salsolæ*, *Fckl.*, *Sacc. Syll.* 3732.

On *Salicornia*. Bungay.

*P. dianthi*, *Not.*, *Sacc. Syll.* 3738.

On *Dianthus deltoides* and *Arenaria peploides*. Yarmouth, Shrewsbury.

*P. denotata*, *C. & E.*, *Sacc. Syll. n.* 3740.

On *Glaucium fulvum*. Kew.

*P. rubicunda*, *Nsl.*, *Sacc. Syll.* 3744.

On *Juncus*, putrid grass, and rotten wood. Lynn; Brandon.

B. On *Fruits.*

*P. leguminum*, *Wallr.*, *Sacc. Syll.* 3754; *Hdbk.* 2692 γ.

On leaves and fruit of leguminous plants. Common.

C. On *Monocotyledons.*

† *Sporidia 3 septate.*

*P. culmorum*, *Cke.*, *Sacc. Syll.* 3789.

On culms of grass. Irstead; Hasbro'.

*P. typhicola*, Cke., *Sacc. Syll.* 3794.

On *Typha angustifolia*. N. Wootton.

†† *Sporidia* 5 septate.

*P. infectoria*, Fckl., *Sacc. Syll.* 3798.

On various grasses. King's Lynn.

*P. spargani*, Cke.

On *Sparganium*. N. Wootton.

*P. scirpicola*, D. C., *Sacc. Syll.* 3799; *Hdbk.* 2650.

On *Scirpus*, *Typha*, and *Carex*, sp. Common.

*P. junciginea*, Cke.

On culms of species of *Juncus*. N. Wootton.

## CRYPTOGAMIC LITERATURE.

GILLET, C. C. Champignons de France, Hymenomycetes, fasc. 16.

BARCLAY, A. Descriptive list of the Uredineæ of Western Himalayas, Part ii., Puccinia. Calcutta.

BARCLAY, A. A *Chrysomyxa* on *Rhododendron arboreum* (*C. himalense*).

BARCLAY, A. On the Life History of a Uredine on *Rubia cordifolia* (*Puccinia Collettiana*.)

BARCLAY, A. On the Life History of a Himalayan Gymnosporangium (*G. Cunninghamianum*.)

BUCKNALL, C. Fungi of the Bristol District, Part xi.

MASSE, G. A Monograph of the genus *Podaxis* in "Journal of Botany," February, March, 1890.

THUENEN, F. VON. Russthan und Schwarze.

FISCHER, DR. E. Untersuchungen zur vergleichenden Entwicklungsgeschichte und Systematik der Phalloideen, in "Denkschrift Schweiz Naturf. Ges."

GUTWINSKIEGO, R. Materyjaly do Flory Głonow Galicyi, Part ii., "Algæ."

LUCAND, Capt. Figures Peintees de Champignons de la France, Part xii.

ARDISSONE, Fr. La divisioni primarie del regno vegetale.

BENNETT, A. Freshwater Algæ of Hampshire and Devonshire, in "Journ. Roy. Micr. Soc.," 1890.

OUDEMANS, C. A. Observaciones sur quelques Sphæropsidees etc. de Dianthus.

FAYOD, DR. V. Hymenomycetes, in "Beitrage der Flora von Deutsch Sud. West Afrika."

FAYOD, DR. V. Sopra un nuovo genere de Imenomiceti, in "Malpighia."

ARNOLD, Dr. F. Lichenologische Ausflage, in "Tirol.," No. xxiv.

MARCHAL, E. Note sur le *Bommerella trigonospora*, in "Bullet. Soc. Roy. de Bot. de Belgique."

NARRAMORE, W. Vaucheria and a Parasitic Rotiferon, in "Research," March, 1890.

RENAULD, F., and CARDOT, J. New Mosses of North America, iii., iv., in "Botanical Gazette," February, March, 1890.

MASSEE, G. A Monograph of the Thelephoræ, Part ii., in "Journ. Linn. Soc.," No. 181.

MACOUN, J. Contributions to Canadian Bryology, No. 2, in "Bull. Torrey Bot. Club," April, 1890.

HALSTED, B. D. A new white Smut. (*Entyloma Ellisii*), in "Bull. Torrey Bot. Club.," April, 1890.

EATON, D. C. A new moss of the genus *Bruchia*, in "Bull. Torrey Bot. Club.," April, 1890.

KEAN, A. L. The lily disease in Bermuda, in "Botanical Gazette," January, 1890.

HICK, T. Ludwig Klein on the genus *Volvax*, in the "Naturalist," March, 1890.

FAYOD, M. V. Prodrome d'une Histoire Naturelle des Agaricines, in "Annales des Sciences Nat.," Series 7, Vol ix.

ARNOLD, Dr. F. Der Lichenen des Fraenkischen Jura.

ZAHLEBRUCKNER, A. Prodromus einer Flechtenflora Bosniens und der Hercegovina, in "Ann. des K. K. Naturhist. Hofmuseums," in Wien.

TRAIL, W. H. Report for 1889 on the Fungi of the East of Scotland, in "Scottish Naturalist," April, 1890.

BRESADOLA, J. *Corticium Martellianum*, in "Nuovo Giorn. Bot. Ital.," April 1890.

BOTTINI, A. Appunte di Briologia Italiana in "Nuovo Giorn. Bot. Ital.," April, 1890.

MASSALONGHO, C. Sulla scoperta della *Taphrina cærulescens*, in Italia. "Nuovo Giorn. Bot. Ital.," April, 1890.

GRILLI, C. Licheni raccolti nell'Appenino Marchigiano, in "Nuovo Giorn. Bot. Ital.," April, 1890.

MASSALONGHO, C. Nuova abitazione della *Lejeunia Rossettiana*, in "Nuovo Giorn. Bot. Ital.," April, 1890.

DE TONI, G. B., and SACCARDO, Fr. Revisione di alcuni generi di Cloroficee epifite, in "Nuovo Notarisia," April, 1890.

DE TONI. Diagnoses Algarum novarum, in "Nuova Notarisia," April, 1890.

TRANSACTIONS OF THE WOOLHOPE CLUB, 1883-5, contains: On the colours of Fungi, by Canon du Port; Jensen, on the Potato Disease; Heteræcismal Fungi, by C. B. Plowright; on Alkaloids, etc., extracted from Fungi, by C. J. Stewart; *Chroolepus iolithus*, by Edwin Lees; Notes on the Edible Fungi of Italy, by A. S. Bicknell; on Fries' Nomenclature of Colours, by H. T. Wharton; the British Species of *Nidularia*, by W. Phillips;

Researches into the Oospores of some Fungi, by J. E. Vize ; Gigantic Fungi, by M. C. Cooke ; the Genus *Pestalozzia*, by J. E. Vize, etc.

CARDOT, J., and others. "Bryological notes, in "Revue Bryologique," No. 2, 1890.

CRISP, F., and others. Summary of current researches in Cryptogamic Botany, in "Journ. Roy. Micr. Society," for February and April, 1890.

BOUDIER, E. Des paraphyses de leur role, etc., in "Bull. Soc. Mycol. de France," Tome vi.

PATOUILLARD, N. Sur la place du Genre *Favolus* dans la classification, in "Bull. S. M. de France," Tome vi.

BRESADOLA, J. Fungi Kamerunensis, in "Bull. Soc. Myc. de France," Tome vi.

BERTRAND, F. Clef dichotomique des Bolets, in "Bull. Soc. Myc. de France," Tome vi.

ROLLAND, LEON. Essai d'un Calendrier des Champignons Comestibles des Environs de Paris, in "Bull. Soc. Myc. de France," Tome vi.

DE TONI, G. B. Osservazioni sulla tassonomia della Bacillaricee, in "Notarisia," January, 1890.

DE TONI, G. B. Algæ Novæ, in "Notarisia," January, 1890.

STEPHANI, F. Die Gattung *Lejeunia* in Herbarium Lindenberg, in "Hedwigia," January, March, 1890.

MAGNUS, P. Bemerkung über die Benennung zweier auf *Alnus* lebender *Taphrina*-arten, in "Hedwigia," January, 1890.

KLEBAHN, H. Neue Untersuchungen und Beobachtungen über die Blasenroste der Kiefern, in "Hedwigia," January, 1890.

KLEIN, LUDWIG. Ueber den Formenkreis der gattung *Volvox*, in "Hedwigia," January, 1890.

SCHROTER, J. Pilze Serbiens, i., in "Hedwigia," March, 1890.

MAGNUS, P. Die systematische Stellung von *Hydnocystis*, in "Hedwigia," March, 1890.

TAVEL, F. VON. Contributions to the History of the Development of the Pyrenomycetes, in "Journ. of Mycology," December, 1889.

MASSEE, GEO. Mycological notes, in "Journ. of Mycology," December, 1889.

ANDERSON, F. W. Preliminary list of the Erysiphæ of Montana, in "Journ. Mycol.," December, 1889.

HALSTED, B. D. Notes upon economic Peronosporæ for 1889, in New Jersey "Journ. Mycol.," December, 1889.

ANDERSON, F. W., and KELSEY, F. D. Erysiphæ upon *Phytoptus* distortions, in "Journ. Mycol.," December, 1889.

SOROKINE, N. Matériaux pour la Flore Cryptogamique de l'Asie Centrale, in "Revue Mycologique," April, 1890.

WINGATE, HAROLD. *Orcadella operculata*, nouveau Myxomycete, in "Revue Mycologique," April, 1890.

KARSTEN, P. A., and ROUMEGUERE, C. Champignons nouveaux du Tonkin, Series 2, in "Revue Mycologique," April, 1890.

# INDEX TO VOL. XVIII.

---

	PAGE
Agaricus (Arm.) focalis, <i>Fr.</i> . . . . .	19
Australian Fungi . . . . .	1, 25, 51, 80
Berkeley Library . . . . .	88
Berkeley, Rev. M. J. . . . .	17
Braithwaite's Moss Flora . . . . .	43
British Fungi, New . . . . .	20, 26, 51
British Discomycetes . . . . .	82
British Pyrenomycetes . . . . .	8, 40, 57, 89
Caloglossa Leprieurii, <i>Ag.</i> . . . .	60
Cerebella andropogonis, <i>Ces.</i> . . . .	19
Cerebella paspali, <i>C. &amp; M.</i> . . . .	19
Chromosporium isabellinum . . . . .	60
Cooke, M. C., British Fungi . . . . .	20, 26, 51, 73
"    "    Exotic Fungi . . . . .	34, 86
"    "    Fungi of Java . . . . .	54
"    "    Illustrations . . . . .	88
"    "    New Australian Fungi . . . . .	1, 25, 51, 80
"    "    On Campbellia . . . . .	87
"    "    Synopsis Pyrenomycetum . . . . .	13, 28, 61, 75
Crombie, J. M., Index of Lichenum . . . . .	43, 67
Cryptogamic Literature . . . . .	23, 47, 71, 90
Discomycetes, British . . . . .	82
Flora of Warwickshire . . . . .	88
Fungi, New British . . . . .	20, 26, 51, 73
Fungi of Australia . . . . .	1, 25, 51
Fungi of Belgium . . . . .	42
Fungi of Java. . . . .	54
Fungi of Madagascar . . . . .	49
Fungus Foerays, 1889 . . . . .	22, 35
Index Lichenum Britannicorum . . . . .	43, 67
Java, Fungi of . . . . .	54
Lentinus cyathus, <i>B. &amp; Br.</i> . . . .	19

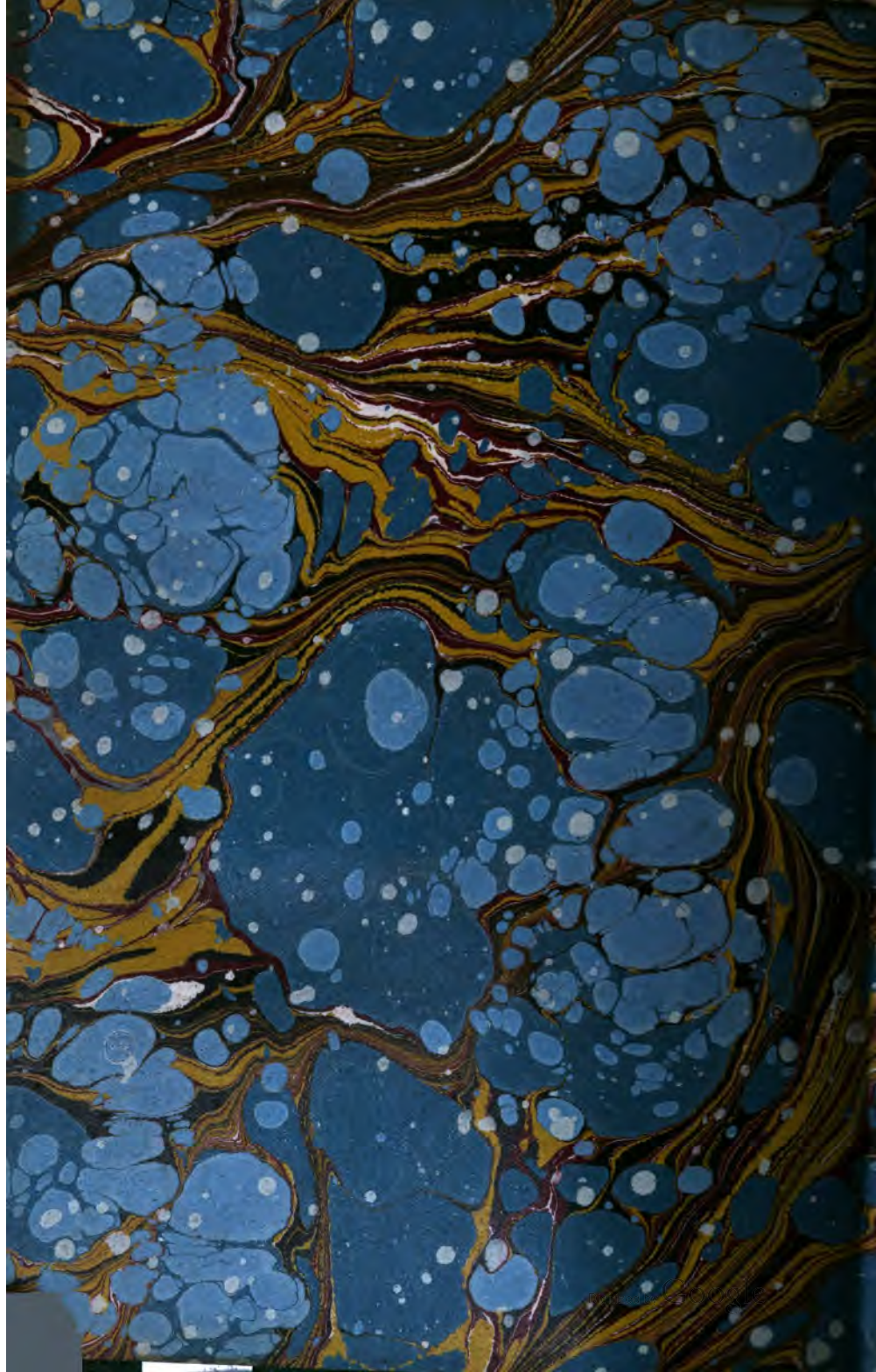


	PAGE
Lichenum Index . . . . .	43, 67
Madagascar, Fungi of . . . . .	49
Massee, G. <i>Pyrenomycetes</i> . . . . .	8, 40, 57, 89
Memorabilia . . . . .	19, 60, 88
Moss Flora. Braithwaite's . . . . .	43
On Campbellia . . . . .	87
Phillips, W. <i>British Discomycetes</i> . . . . .	82
<i>Polyporus phlebophorus</i> . . . . .	88
<i>Pyrenomycetes</i> , British . . . . .	8, 40, 57, 89
<i>Pyrenomycetum</i> , Synopsis . . . . .	13, 28, 61, 75
Revision of <i>Thelephoræ</i> . . . . .	21
Some Exotic Fungi . . . . .	34, 86
<i>Sphæria carysphaga</i> , Sch. . . . .	60
Synopsis <i>Pyrenomycetum</i> . . . . .	13, 28, 61, 75
<i>Thelephoræ</i> , revision of . . . . .	21
<i>Trichia fallax</i> , P. . . . .	19
Vine Mildew . . . . .	19
Woolhope Club Transactions . . . . .	81









DEC 14 1896

REJECTED FROM  
CABOT SCIENCE LIBRARY



